North Dakota Law Review

Volume 54 | Number 3 Article 5

1977

The Meaning of the Word Minerals

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THE MEANING OF THE WORD "MINERALS"

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I. INTRODUCTION

The courts have experienced no little difficulty in construing instruments and statutes which grant, reserve, or otherwise deal with minrals.[1] When confronted with such a task, courts will commonly preface their opinions on the subject with some general remarks of which the following is a synthesis:

> The word "mineral" is a word of general language and is not *per se* a word of art. It is not a definite term and has no definite and certain meaning which can be applied in all cases. On the contrary it is used in many senses. It is a word which is incapable of a definition which would be uniformly applicable, but rather is susceptible of limitation according to the intention with which it is used in a particular instrument or statute. Each case must be determined upon its own facts. No rigid and arbitrary definition of the word "minerals" may be adopted, but due regard must be given to the language of the instrument or statute in which it occurs, the relative position of the parties, the substance of the transaction or arrangement in question, the business in which the parties are engaged, the existing circumstances, and the intention of the parties, if it can be ascertained.[2]

Having unburdened themselves of these remarks, the courts arrive at decisions which are in many respects irreconcilable because of differences not merely in the underlying facts of each case but in the principles applied.

There is, of course, a distinction between the meaning of the word "mineral" as used in the abstract and the meaning of the word "mineral" as used in a particular instrument or statute.[3] A

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1. *See, e.g.*, Hartwell v. Camman, 10 N.J. Eq. 128, ——, 64 Am. Dec. 448, 451, 3 Morr. Min. Rep. 229, —— (1854) where the court stated, "I admit that I have experienced very great embarrassment in giving an answer to this question satisfactory to myself."

2. The quotation in the text has been synthesized from the following cases: Bumpus v. United States, 325 F.2d 264 (10th Cir. 1964); United States *ex rel.* Tennessee Valley Authority v. Harris, 115 F.2d 343 (5th Cir. 1940); Dierks Lumber Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949); Kinder v. LaSalle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923); Hans v. Great Bend Brick & Tile Co., 172 Kan. 478, 241 P.2d 475 (1952); Sellers v. Ohio Valley Trust Co., 248 S.W.2d 897 (Ky. 1952); Kalberer v. Grassham, 282 Ky. 430, 138 S.W.2d 940 (1940); Huie Hodge Lumber Co. v. Railroad Lands Co., 151 La. 197, 91 So. 676 (1922); Vang v. Mount, 300 Minn. 393, 220 N.W.2d 498 (1974); Cole v. McDonald, 236 Miss. 168, 109 So. 2d 628 (1959); Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384 (1954); Brady v. Smith, 181 N.Y. 178, 73 N.E. 963, 106 Am. St. Rep. 531, 2 Ann. Cas. 636 (1905); Adams County v. Smith, 74 ND.. 621, 23 N.W.2d 873 (1946); Silver v. Bush, 213 Pa. 195, 62 A. 832 (1906); Campbell v. Tennessee Coal, Iron & R. Co., 150 Tenn. 423, 265 S.W. 674 (1924); Fleming Foundation v. Texaco, Inc., 337 S.W.2d 846 (Tex. Civ. App. 1960); White v. Sayers, 101 Va. 821, 45 S.E. 747 (1903); Puget Mill. Co. v. Duecy, 1 Wash. 2d 421, 96 P.2d 571 (1939); Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918).

3. Praeletorian Diamond Oil Ass'n v. Garvey, 15 S.W.2d 698 (Tex. Civ. App. 1929).

particular substance may unquestionably be a mineral in the abstract meaning of the word, and yet for one reason or another a court may hold that it does not fall within the scope of the grant or reservation in a given instrument.[4] It is the purpose of this article to examine the various factors upon which the courts have relied in determining whether a particular substance is a mineral within the meaning of an instrument or statute. This article does not discuss the questions of whether a substance which is conceded or determined to be a mineral is effectively granted or reserved by the particular instrument,[5] or whether the grant or reservation is of an interest in fee as distinguished from a profit a prendre,[6] nor does it discuss the right of the mineral owner to injure or destroy the surface in extracting the mineral[7] except to the extent that the possibility of injury to or destruction of the surface may affect the classification of a particular substance as a mineral.[8] Furthermore, this article does not discuss the factors involved in a determination of whether public land is mineral in character under the United States public land laws[9], or whether a discovery of a valuable mineral deposit has been made,[10] except to the extent that those matters depend upon the threshold question of whether the particular substance involved is a mineral.[11]

II. NECESSITY FOR DETERMINING WHETHER A SUBSTANCE IS A "MINERAL"

The great majority of cases in which the question of whether a particular substance is a mineral arises are cases dealing with mineral estates which have been severed either by lease or by deed.[12] These cases almost invariably involve a dispute between the owner of the surface estate and the owner of the mineral estate. The dispute is usually one of two kinds: (1) The primary purpose of the surface owner may be to prevent the extraction of a particular substance

4. Horse Creek Land & Min. Co. v. Midkiff, 81 W. Va. 616, 95 S.E. 26 (1918).

5. *See, e.g.*, Resler v. Rogers, 272 Minn. 502, 139 N.W.2d 379 (1965) (the phrase "also excepting mineral reservations" is not a reservation of minerals); Reiss v. Rummell, 232 N.W.2d 40 (N.D. 1975); Olson v. Dillerud, 226 N.W.2d 363 (N.D. 1975). *Compare* Adams County v. Smith, 74 N.D. 621, 23 N.W.2d 873 (1946) (no implied or constructive reservation of coal in conveyance by county) *with* Argo Oil Corp. v. Lathrop, 76 S.D. 70, 70 N.W.2d 431 (1955) (reservations of minerals read into conveyance).

6. *See, e.g.*, Builders Supplies Co. v. Gainey, 282 N.C. 261, 192 S.E.2d 449 (1972).

7. *See* Twitty, *Law of Subjacent Support and the Right to Totally Destroy Surface in Mining Operations*, 6 ROCKY MTN. MIN. L. INST. 497 (1961).

8. *See, e.g.*, River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976).

9. *See* 1 C. LINDLEY, MINES § 98 (3rd ed. 1914); 1 AM. LAW OF MINING §§ 4.50-4.55 (Rocky Mt. Min. L. Foundation ed., Matthew Bender 1977).

10. *See* 1 AM. LAW OF MINING §§ 4.13-4.27 (Rocky Mt. Min. L. Foundation ed., Matthew Bender 1977); Reeves, *The Law of Discovery Since Coleman*, 21 ROCKY MT. MIN. L. INST. 415 (1975); Reeves, *The Origin and Development of the Rules of Discovery*, 8 LAND & WATER L. REV. 1 (1973).

11. *See, e.g.*, Northern Pac. Ry. v. Soderberg, 188 U.S. 526 (1903).

12. *See* Annot., 86 A.L.R. 983 (1933); Annot., 17 A.L.R. 156 (1922).

in order to prevent its extraction by the owner of the mineral estate; (2) The primary purpose of the surface owner may be to extract the particular substance himself, either directly or by means of a lease; he therefore asserts ownership of the substance in order to confirm his right to extract it.

Federal statutes granting or authorizing the disposal of public lands to states, corporations, or individuals frequently except from their operation lands which are mineral in character.[13] Since the validity of such grants depends upon the nonmineral character of the land granted, it may be necessary to determine whether a particular substance is a mineral in order to determine whether the grant is valid.[14] Other federal statutes authorizing the disposal of public lands provide, in various terms, for the reservation of minerals.[15] The ownership of a particular substance in lands disposed of under such statutes requires a determination of whether that substance is included in the reservation of minerals.[16] Mining claims may be located on valuable mineral deposits discovered on public lands.[17] The validity of a mining claim therefore depends in the first instance upon whether the substance located is a mineral.[18]

State and local governments are frequently prohibited by constitution or statute from disposing of mineral rights. For this and other reasons, in interpreting grants or reservations of minerals made by a state or local government it may be necessary to determine whether a particular substance is a mineral.[19]

Private agreements of various kinds may relate to "minerals" and therefore may reguire a determination of what substances are included.[20]

State taxation statutes may impose a tax upon, or exempt from certain forms of taxation, "mines" or "mining," or equipment or supplies used in "mining."[21] In cases arising under such statutes,

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13. *See, e.g.*, Act of June 21, 1866, ch. 127, § 1, 14 Stat. 66 (Homestead Act amendment); Act of July 2, 1864, ch. 217, 13 Stat. 365 (grant to Northern Pacific); Act of July 2, 1862, ch. 130, § 1, 12 Stat. 503, as amended, 7 U.S.C. § 301 (1970) (donating lands to state providing colleges for the benefit of agricultural and mechanical arts); Act of July 1, 1862, ch. 120, § 3, 12 Stat. 489, 492 (grant to Union Pacific).

14. Northern Pac. Ry. v. Soderberg, 188 U.S. 526 (1903); Dunbar Lime Co. v. Utan-Idaho Sugar Co., 17 F.2d 351 (8th Cir. 1926).

15. 1 AM. LAW OF MINING §§ 3.23-3.41C (Rocky Mt. Min. L. Foundation ed., Matthew Bender 1977).

16. State *ex rel.* State Hwy. Comm'n v. Trujillo, 82 N.M. 694, 487 P.2d 122 (1971); United States v. Isbell Construction Co., 4 IBLA 205 (1972).

17. 30 U.S.C. § 22 (1970).

18. United States v. Toole, 224 F. Supp. 440 (D. Mont. 1963) (peat and organic soil are not minerals); Earl Douglass 44 L.D. 325 (1915) (fossil remains of prehistoric animals are not minerals); Hughes v. Florida, 42 L.D. 401 (1913) (shell rock is not a mineral).

19. Collins v. Coastal Petroleum Co., 118 So. 2d 796 (Fla. App. 1960); Abbey v. State, 202 N.W.2d 844 (N.D. 1972); Salzseider v. Brunsdale, 94 N.W.2d 502 (N.D. 1959); Adams County v. Smith, 74 N.D. 621, 23 N.W.2d 873 (1946); State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965).

20. White v. Sayers, 101 Va. 821, 45 S.E. 747 (1903) (partnership).

21. *See* Carter Oil Co. v. Blair, 256 Ala. 650, 57 So. 2d 64 (1951) (exemption for "ma-

"mining" may be defined as the extraction of minerals from the earth, and a determination of whether a substance is a mineral may be necessary in order to determine whether the operation being conducted is "mining."[22] Similarly, for the purpose of taxation real property may be defined to include mines and minerals.[23]

The state or federal government may, in eminent domain proceedings, take an interest in land which does not include minerals. It may later become necessary to determine whether a particular substance has been taken by the condemnor or left with the landowner.[24]

State statutes commonly provide double or triple damages for the trespassory removal of minerals. In an action brought pursuant to such a statute it may become necessary to determine whether a particular substance is a mineral.[25] If there has been a severance of the mineral estate and if the removal of the substance in question is done under a claim of right by either the owner of the mineral estate or the owner of the surface estate, the word "minerals" in the statute should be given the same meaning that it has in the conveyance by which the mineral estate was severed.[26]

III. CRITERIA

In their efforts to determine whether a particular substance is a mineral, the courts have used as a starting point for their analysis one or more criteria which exist separate and apart from the instru-

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chines used in mining"); West Lake Quarry & Material Co. v. Schauffner, 451 S.W.2d 140 (Mo. 1970) (exemption for machinery and equipment used in "mining"); Lillington Stone Co. v. Maxwell, 203 N.C. 151, 165 S.E. 351 (1932) (purchaser of gasoline used in "mining machinery" entitled to refund of tax); Nephi Plaster & Mfg. Co. v. Juab County, 33 Utah 114, 93 P. 53, 14 L.R.A. (N.S.) 1043 (1907) (tax on net proceeds of "mines and mining claims").

22. Lillington Stone Co. v. Maxwell, 203 N.C. 151, 165 S.E. 351 (1932). *See* Etchison Drilling Co. v. Fluornoy, 131 La. 442, 59 So. 867 (1912); J.M. Guffey Petroleum Co. v. Murrel, 127 La. 466, 53 So. 709 (1910); West Lake Quarry & Material Co. v. Schauffner, 451 S.W.2d 140 (Mo. 1970); Certain-Teed Products Corp. v. Comly, 54 Wyo. 79, 87 P.2d 21 (1939). *But see* Carter Oil Co. v. Blair, 256 Ala. 650, 57 So. 2d 64 (1951) ("But the fact that oil is generally recognized as a mineral is not decisive of the question at hand").

23. *See* Ferguson v. Steen, 293 S.W. 318 (Tex. Civ. App. 1927).

24. *See* Bumpus v. United States, 325 F.2d 265 (10th Cir. 1963). If minerals are taken in eminent domain proceedings, it may become necessary to determine who should be compensated for the taking). West Virginia Dep't of Highways v. Farmer, 226 S.E.2d 717 (W. Va. 1976).

25. *See* Henry v. Lowe, 73 Mo. 96 (1880); Hendler v. Lehigh Valley R., 209 Pa. 263, 58 A. 488 (1904). *Cf.* Commonwealth v. Hipple, 7 Pa. Dist. 399 (1898) (criminal prosecution).

26. Hendler v. Lehigh Valley R., 209 Pa. 263, 58 A. 488 (1904). Other contexts in which the meaning of the word "minerals" must be determined are as follows: *Alien Land Laws*: State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565 (1907) (alien land laws not applicable to "lands containing valuable deposits of minerals, metals, iron, coal, or fire clay"). *Conditional Sales Laws*: Cornwell v. Buck & Stoddard, 28 Cal. App. 2d 333, 82 P.2d 516 (1938) (although oil is a mineral, oil well machinery is not "equipment and machinery used or to be used for mining purposes" under act relating to conditional sales). *Criminal Laws*: People v. Silver, 16 Cal. 2d 714, 108 P.2d 4 (1940) (defense of justifiable homicide dependent upon showing that property constituted "mine"). *Customs Laws*: Marvel v. Merritt, 116 U.S. 11 (1885) (tariff applicable to "mineral and bituminous substances in a crude state"). *See* United States v. Buffalo Natural Gas Fuel Co., 172 U.S. 339 (1899).

ment or statute in question. These criteria provide a general definition or meaning of the word mineral which may then be restricted by limitations imposed by the law of the forum and by the language of the instrument or statute to be construed.

A. ANIMAL, VEGETABLE, OR MINERAL

The most fundamental criterion for classification of a substance as a mineral is the commonly known and elementary division of all material substances into "animal," "vegetable," and "mineral."[27] Under this division, the word "mineral" would include almost all material substances of the earth,[28] including oil and gas,[29] rock,[30] marble,[31] serpentine,[32] limestone,[33] sand,[34] gravel,[35] building materials,[36] clay,[37] the soil itself,[38] water,[39] and even air.[40] The broadest definition of the word "mineral," therefore, would include all inorganic matter.[41] For reasons which are not altogether apparent, some courts refer to this meaning of the word "mineral" as its "technical"[42] or "scientific"[43] meaning, although it is more properly re-

27. Rudd v. Hayden, 265 Ky. 495, 97 S.W.2d 35 (1936); Board of County Commissioners of Roosevelt County v. Good, 44 N.M. 495, 105 P.2d 470 (1940); Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882) ("common understanding of mankind"); Certain-Teed Products Corporation v. Conly, 54 Wyo. 79, 87 P.2d 21 (1939).

28. Hans v. Great Bend Brick & Tile Co., 172 Kan. 478, 241 P.2d 475 (1952); State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965).

29. Silver v. Bush, 213 Pa. 195, 62 A. 832 (1906); Luse v. Boatman, 217 S.W. 1096 (Tex. Civ. App. 1919).

30. State *ex rel* State Hwy. Comm'n v. Trujillo, 82 N.M. 694, 487 P.2d 122 (1971); State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907) (silicated rock).

31. Deer Lake Co. v. Michigan Land & Iron Co., 89 Mich. 180, 50 N.W. 807 (1891).

32. *Id.*

33. Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928); State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907).

34. Harper v. Talladega County, 279 Ala. 365, 185 So. 2d 388 (1966); Hendler v. Lehigh Valley R., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904).

35. Lillington Stone Co. v. Maxwell, 203 N.C. 151, 165 S.E. 351 (1932); Beck v. Harvey, 196 Okla. 270, 164 P.2d 399 (1944); United States v. Aitken, 25 Phil. 7 (1913).

36. Deer Lake Co. v. Michigan Land & Iron Co., 89 Mich. 180, 50 N.W. 807 (1891).

37. State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907) (silicated clay).

38. Bambauer v. Menjoulet, 214 Cal. App. 2d 871, 29 Cal. Rptr. 874, 95 A.L.R.2d 839 (1963); Hartwell v. Camman, 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854); Salzseider v. Brunsdale, 212 N.W.2d 502 (N.D. 1959).

39. State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965). *See* Fleming Foundation v. Texaco, Inc., 337 S.W.2d 846 (Tex. Civ. App. 1960).

40. *Id.*

41. White v. Miller, 200 N.Y. 29, 92 N.E. 1065, 140 Am. St. Rep. 618 (1910); Brady v. Smith, 181 N.Y. 178, 73 N.E. 963, 106 Am. St. Rep. 531, 2 Ann. Cas. 636 (1906); Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882); Campbell v. Tennessee Coal, Iron & R. Co., 150 Tenn. 423, 265 S.W. 674 (1924); Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932); Murphy v. Van Voorhis, 94 W. Va 475, 119 S.E. 297 (1923); Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918). *Cf.* Sellars v. Ohio Valley Trust Co., 248 S.W.2d 897 (Ky. 1952) ("all organic and inorganic substances that can be taken from the earth").

42. Campbell v. Tennessee Coal, Iron & Ry. Co., 150 Tenn. 423, 265 S.W. 674 (1924); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949). *Cf.* Beury v. Shelton, 141 Va. 28, 144 S.E. 629 (1928) ("geological sense").

43. Northern Pac. Ry. v. Soderberg, 188 U.S. 526 (1903); Hartwell v. Camman, 10 N.J. Eq. 129, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854); Brady v. Smith, 181 N.Y. 178, 73 N.E. 963, 106 Am. St. Rep. 531, 2 Ann. Cas. 636 (1905); Dunham v. Kirkpatrick,

ferred to as "a broad, general, popular definition."[44] In conveyancing, the word "minerals" is not used in such a broad comprehensive sense,[45] for if it were to be so interpreted, a grant or reservation of minerals would be a grant or reservation of the entire estate.[46]

B. COMMON MEANING

To avoid an overly broad definition which would include all inorganic matter, the courts have had recourse to the common meaning,[47] or as it is variously expressed, the plain,[48] ordinary,[49] usual,[50] natural,[51] accepted,[52] or popular[53] meaning of the word "mineral;" that is, a comprehensive term including every description of stone

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101 Pa. 36, 47 Am. Rep. 696 (1882); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949); Luse v. Boatman, 217 S.W. 1096 (Tex. Civ. App. 1919).

44. Puget Mill. Co. v. Duecy, 1 Wash. 2d 421, 96 P.2d 571 (1939).

45. Hans v. Great Bend Brick & Tile Co., 172 Kan. 478, 241 P.2d 475 (1952); Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904). *See* Rudd v. Hayden, 265 Ky. 495, 97 S.W.2d 35 (1936); Murphy v. Van Voorhis, 94 W. Va. 475, 119 S.E. 297 (1923).

46. Northern Pac. Ry. v. Soderberg, 188 U.S. 526 (1903); Dierks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949); Deer Lake Co. v. Michigan Land & Iron Co., 89 Mich. 180, 50 N.W. 807 (1891); Hartwell v. Camman, 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854); Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882); Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947); Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918); Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928); Puget Mill Co. v. Duecy, 1 Wash. 2d 421, 96 P.2d 571 (1939).

47. Bd. of County Comm'rs of Roosevelt County v. Good, 44 N.M. 495, 105 P.2d 470 (1940); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927). *See* Thomas v. Markham & Brown, Inc., 353 F. Supp. 498 (E.D. Ark. 1973) ("common speech and usage"); Missouri Pac. Ry. v. Strohacker, 202 Ark. 645, 152 S.W.2d 563 (1941) ("substances commonly recognized are minerals"); Resler v. Rogers, 272 Minn. 502, 139 N.W.2d 379 (1965) ("commonly understood meaning"); Salzseider v. Brunsdale, 94 N.W.2d 502 (N.D. 1959) ("commonly understood meaning"); Psencik v. Wessels, 205 S.W.2d 658, 660-61 (Tex. Civ. App. 1947) ("such minerals and mineral substances as are commonly regarded as minerals as distinguished from the soil in general").

48. Burdette v. Bruen, 118 W. Va. 624, 191 S.E. 360 (1937).

49. Burke v. Southern Pac. Ry., 234 U.S. 669 (1914); Stowers v. Huntington Development & Gas Co., 72 F.2d 969 (4th Cir. 1934); Lovelace v. Southwest Petroleum Co., 267 F. 513 (6th Cir. 1920); Bd. of County Comm'rs of Roosevelt County v. Good, 44 N.M. 495, 105 P.2d 470 (1940); Salzseider v. Brunsdale, 94 N.W.2d 502 (N.D. 1959); Holland v. Dolese Co., 540 P.2d 549 (Okla. 1975); Mack Oil Co. v. Laurence, 389 P.2d 955 (Okla. 1964); Cronkhite v. Falkenstein, 352 P.2d 396 (Okla. 1960); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949); Carothers v. Mills, 233 S.W. 155 (Tex. Civ. App. 1921) ("ordinary acceptation"); Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928) ("ordinary usage"); State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907); Burdette v. Bruen, 118 W. Va. 624, 191 S.E. 360 (1937); Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927).

50. Carothers v. Mills, 233 S.W. 155 (Tex. Civ. App. 1921) ("usual view").

51. Holland v. Dolese Co., 540 P.2d 549 (Okla. 1975); Mack Oil Co. v. Laurence, 389 P.2d 955 (Okla. 1964); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949); State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907).

52. Dierks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949) ("generally accepted commercial meaning"); Cronkhite v. Falkenstein, 352 P.2d 396 (Okla. 1960); Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882); Western Development Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955); Burdette v. Bruen, 118 W. Va. 624, 191 S.E. 360 (1937); Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927).

53. Burke v. Southern Pac. Ry., 234 U.S. 669 (1914); Lovelace v. Southwest Petroleum Co., 267 F. 513 (6th Cir. 1920); Hartwell v. Camman, 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854); Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882) ("popular estimation" and "popular understanding"); Carothers v. Mills, 233 S.W. 155 (Tex. Civ. App. 1921) ("popular view"); Suit v. Hochstetter Oil Co., 63 W. Va. 317, 61 S.E. 307 (1908) (oil and gas "popularly" considered to be minerals).

and rock deposit, whether containing metallic or nonmetallic substances.[54] These cases generally hold that a grant or reservation of minerals includes all substances commonly regarded as minerals, in the absence of some limitation or restriction in the conveyance.[55] Applying this criterion the courts have found such substances as coal,[56] stone,[57] caliche,[58] and oil and gas[59] to be minerals. On the other hand, it has been held that the common meaning of the word "mineral" does not include oil and gas,[60] limestone,[61] gypsum,[62] common sand, gravel,[63] clay,[64] or water.[65] As these cases illustrate, there is no generally accepted common meaning of the word "minerals," and a rule of interpretation based upon such "common meaning" leaves the question largely to the discretion of the court.

Some cases refer to the meaning given to the word "minerals" by the custom of the country in which the deed is to operate.[66] For example, where oil and gas have been discovered in a particular vicinity, there may arise a custom to use the word "minerals" to refer to oil and gas to the exclusion of other minerals, and particularly to the exclusion of substances such as sand and gravel.[67]

C. STANDARD AUTHORITIES

In determining whether a particular substance is included in the common meaning of the word "minerals," some courts state merely that it is so included, or that it is not, as the case may be, without any reference to the manner in which the common meaning is de-

54. Bd. of County Comm'rs of Roosevelt County v. Good, 44 N.M. 495, 105 P.2d 470 (1940); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927).

55. *See* note 149 *infra*, and text accompanying.

56. *See* Henry v. Lowe, 73 Mo. 96 (1880) ("coal is a well known mineral").

57. Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932).

58. *See* Bd. of County Comm'rs of Roosevelt County v. Good, 44 N.M. 495, 105 P.2d 470 (1955); Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882).

59. Lovelace v. Southwest Petroleum Co., 267 F. 513 (6th Cir. 1920); Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955).

60. Stowers v. Huntington Dev. & Gas Co., 72 F.2d 969 (4th Cir. 1934); Missouri Pac. Ry. v. Furgueron, 210 Ark. 460, 196 S.E.2d 588 (1946); Missouri Pac. Ry. v. Strohacker, 202 Ark. 645, 152 S.E.2d 563 (1941); Hudson v. McGuire, 188 Ky. 712, 223 S.W. 1101, 17 A.L.R. 148 (1920). *See* Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882) ("In popular estimation petroleum is not regarded as a mineral substance. . . .").

61. Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949).

62. Cronkhite v. Falkenstein, 352 P.2d 396 (Okla. 1960).

63. Resler v. Rogers, 272 Minn. 502, 139 N.W.2d 379 (1965); Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947).

64. Resler v. Rogers, 272 Minn. 502, 139 N.W.2d 379 (1965).

65. *See* Mack Oil Co. v. Laurence, 389 P.2d 955 (Okla. 1964); Stephen Hayes Estate, Inc. v. Togliatti, 85 Utah 137, ——, 38 P.2d 1066, 1068 (1934) ("The characteristics of water containing copper in solution are so unlike the characteristics of minerals that to say water is a mineral would be to extend the meanng of the word 'mineral' beyond what is generally understood by that term.").

66. Gibson v. Tyson, 5 Watts 34, 13 Morr. Min. Rep. 72 (Pa. 1836); Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928); Darvill v. Roper, 3 Drew. 294, 61 Eng. Rep. 915, 10 Morr. Min. Rep. 406 (Ch. 1855). *See* Nance v. Donk Brothers Coal & Coke Co., 13 Ill. 2d 399, 151 N.E.2d 97 (1958); Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942) ("the usage of the trade").

67. Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384 (1954).

termined.[68] Other courts, however, have sought the common meaning of the word "minerals" by consulting dictionaries and other authorities.[69] In some cases, definitions formulated by mineralogists are consulted for assistance in determining whether a particular substance is a mineral.[70] It is frequently said that the word "mineral" includes whatever is recognized by the standard authorities as mineral.[71] Conversely, the fact that a particular substance is not considered to be a mineral by the standard authorities may cause a court to refuse to include it within a grant or reservation of minerals.[72]

D. ECONOMIC VALUE

In determining whether a substance is a mineral, an important criterion is whether the substance has economic value;[73] that is, whether the substance is more valuable than the land in which it is contained[74] and for that reason is sought after and extracted from the land by mining, quarrying, or other special means for removal.[75] Thus, a mineral may be defined as any inorganic substance found in nature having sufficient value, separate from its situs as part of the earth, to be mined, quarried, or dug for its own sake, or its own specific use.[76] This, no doubt, is the sense in which the

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68. *See, e.g.*, Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882).

69. *See, e.g.*, Marvel v. Merritt, 116 U.S. 11 (1885); Murray v. Allard, 100 Tenn. 100, 43 S.W. 355, 66 Am. St. Rep. 740, 39 L.R.A. 249, 19 Morr. Min. Rep. 169 (1897).

70. Hartwell v. Camman, 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854); Circular, July 15, 1873, in H. COPP, U.S. MINING DECISIONS 316 (1874).

71. 43 C.F.R. §§ 2710.0-5(e), 3812.1 (1976); Circular, July 15, 1873, *in* H. COPP, U.S. MINING DECISIONS 316 (1874); 1 C. LINDLEY, MINES § 98 (3d ed. 1914). This definition has been characterized as "probably the least misleading." United States v. Aitken, 25 Phil. 7 (1913).

72. United States v. Aitken, 25 Phil. 7 (1913).

73. Vang v. Mount, 300 Minn. 393, 220 N.W.2d 498 (1974).

74. The comparison is between the substance in question and the matrix of earth, soil, or rock in which it is found. This comparison should not be confused with the rule, formerly applied for the purpose of classifying public lands of the United States as mineral or nonmineral in character, which compared the value of the lands for mining purposes with their value for agriculture or other nonmineral purposes. *See generally* 1 AM. LAW OF MINING § 4.53 (Rocky Mt. Min. L. Foundation ed., Matthew Bender 1977); Reeves, *The Origin and Development of the Rules of Discovery*, 8 LAND & WATER L. REV. 1, 21-26, 28-30 (1973).

75. State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965).

76. Silver v. Bush, 213 Pa. 195, 62 A. 832 (1906); Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904); Horse Creek Land & Min. Co. v. Midkiff, 81 W. Va. 616, 95 S.E. 26 (1918). *See* Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918). In this context, value is not the value of the substance to the miner, i.e., whether he can make a profit by its extraction and sale, but rather its value to the user, i.e., its "special or peculiar value in trade, commerce, manufacture, science, or the arts." Stanislaus Electric Power Co., 41 L.D. 655 (1912). *See* U.S. v. Soderberg, 188 U.S. 526, 537 (1903)("deposits of a mineral character, which are useful in the arts or valuable for purposes of manufacture"). Lindley incorporated the "economic value" concept as one portion of his definition of minerals, which is as follows:

> [S]uch substance as—
> (a) Is recognized as a mineral, according to its chemical composition, by the standard authorities on the subject;
> (b) Is classified as a mineral product in trade or commerce; or—
> (c) Such a substance (other than the mere surface which may be used for

word "minerals" is most commonly used in conveyances.[77] Where this criterion is applied, it has been held that a substance having no commercial value at the time of the conveyance is not included in a grant or reservation of "minerals."[78] Some cases holding that a particular substance is not a mineral mention the absence of commercial value without according that fact any particular significance.[79] It should be noted, however, that if under some positive rule of law a substance is determined not to be a mineral, its economic value is immaterial.[80]

Substances of widespread occurrence such as clay, sand, gravel, and limestone are not usually considered to be minerals unless they are of an exceptional character or possess a property giving them special value.[81] For example, potter's clay or porcelain clay,[82] clay valuable for making cement,[83] sand valuable for making gloss,[84] or limestone of such quality that it may profitably be manufactured into cement[85] may be considered to be minerals, while the same substances, if they are useful only for building and road construction purposes, would not ordinarily be considered to be minerals.[86]

E. STATUTES

A number of state statutes define the word "minerals,"[87] frequently by setting out a list of minerals which appears to have been

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agricultural purposes) as possesses economic value for use in trade, manufacture, the sciences, or in the mechanical or ornamental arts. . . .

1 C. LINDLEY, MINES § 98 (3rd ed. 1914).

Lindley's definition was quoted with approval in Earl Douglass, 44 L.D. 325 (1915), and has been incorporated in the regulations dealing with public sales, at 43 C.F.R. § 2710.0-5(e) (1976).

77. Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904).

78. Campbell v. Tennessee Coal, Iron & Ry. Co., 150 Tenn. 423, 265 S.W. 674 (1924) (limestone); White v. Sayers, 101 Va. 821, 45 S.E. 747 (1903) (coal) As to whether, as a general rule, it is necessary that the value of the mineral be established or known on the date of the conveyance, *see* notes 258-72 *infra*, and text accompanying. In United States *ex rel.* Tennessee Valley Auth. v. Harris, 115 F.2d 343 (5th Cir. 1940), a condemnation award of $1.00 per acre was granted for a mineral estate consisting solely of a sand and gravel deposit "of little commercial value."

79. *See, e.g.*, Farrell v. Sayre, 129 Colo. 368, 270 P.2d 190 (1954).

80. Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).

81. Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949).

82. *See* Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904).

83. State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907).

84. *See* Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949).

85. State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907).

86. Resler v. Rogers, 272 Minn. 502, 139 N.W.2d 379 (1965); Holland v. Dolese Co., 540 P.2d 549 (Okla. 1975); Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904) ("common mixed sand, merely worth digging and removing as material for grading"); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949); Eldridge v. Edmondson, 252 S.W.2d 605 (Tex. Civ. App. 1952); Shell Petroleum Corp. v. Liberty Gravel & Sand Co., 128 S.W.2d 471 (Tex. Civ. App. 1939) (building sand).

87. Appendix I, *infra*, contains all of the statutes defining the word "minerals" which have come to the attention of the author. However, the vagaries of legal indexing and the continuing enactment and amendment of mined land reclamation legislation preclude any representation as to the completeness of the material contained in Appendix I.

taken from a report on the mineral production of the state and attaching to the list general words such as "and all other minerals." These statutes are usually intended to have a limited application, and the statutory definitions are of little or no value in construing the word "minerals" as used in private conveyances.[88] It is of some interest to note that mined land reclamation statutes have generated more definitions of the word "minerals" than all other statutes together.

IV. LIMITATIONS

A. METALLIC SUBSTANCES

Some decisions have limited the word "minerals" to metallic or metalliferous substances.[89] Nevertheless, nonmetalliferous substances were recognized as minerals at an early date,[90] and most decisions apply the word "mineral" to metallic and nonmetallic substances alike.[91] Some cases have gone so far as to use the rule of *ejusdem generis* to exclude all metallic and metalliferous substances from the scope of the word "minerals" when that word is used in such phrases as "oil, gas and other minerals."[92] Occasionally the context of a statute or instrument itself will make it clear that the term "minerals" was not intended to be limited to metallic or metalliferous substances.[93]

B. CHEMICAL AND PHYSICAL CHARACTERISTICS

The term "mineral" is defined by the mineralogist as follows:

88. Bambauer v. Menjoulet, 29 Cal. App. 2d 87, 29 Cal. Rptr. 874, 95 A.L.R.2d 839 (1963). *But see* Holloway Gravel Co. v McKowen, 200 La. 917, 9 So. 2d 228 (1942).

89. Union Oil Co., 23 L.D. 222 (1896), *rev'd on review*, 25 L.D. 351 (1897); Wheeler v. Smith, 5 Wash. 704, 32 P. 784 (1893). *See* Brady v. Smith, 181 N.Y. 178, 73 N.E. 963, 106 Am. St. Rep. 531, 2 Ann. Cas. 636 (1905); Gibson v. Tyson, 5 Watts, 34, 13 Morr. Min. Rep. 72 (Pa. 1936). *Cf.* Beury v. Shelton, 151 Va. 28, ——, 144 S.E. 629, 633 (1928) ("neither the layman nor the lawyer would think of limestone when metals and minerals are referred to"); Puget Mill. Co. v. Duecy, 1 Wash. 2d 421, ——, 96 P.2d 571, 573 (1939) ("Under a strict definition [the word 'minerals'] might be limited to metallic substances.").

90. *See* Y.B. Hil. 17 Edw. III, No. 21 (1342), where "minerae de pierre" and "de charbon" are mentioned.

91. United States *ex rel.* Tennessee Valley Auth. v. Harris, 115 F.2d 343 (5th Cir. 1940); Poe v. Ulery, 233 Ill. 56, 84 N.E. 46 (1908); Hartwell v. Camman, 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854); Bd. of County Comm'rs of Roosevelt County v. Good, 44 N.M. 495, 105 P.2d 470 (1948); Armstrong v. Lake Champlain Granite Co., 147 N.Y. 495, 42 N.E. 186, 49 Am. St. Rep. 683, 18 Morr. Min. Rep. 279 (1895); Murray v. Allard, 100 Tenn. 100, 43 S.W. 355, 66 Am. St. Rep. 740, 39 L.R.A. 249, 19 Morr. Min. Rep. 169 (1897); Nephi Plaster & Mfg. Co. v. Juab County, 33 Utah 114, 93 P. 53, 14 L.R.A. (N.S.) 1043 (1907); Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927). *See* Warner v. Patton, 19 S.W.2d 1111 (Tex. Civ. App. 1929). In Hartwell v. Camman, 10 N.J. Eq. 128, ——, 64 Am. Dec. 448, 452, 3 Morr. Min. Rep. 229, —— (1854), the court said as follows: "Nor can I see any propriety in confining the meaning of the terms used to any one of the subordinate divisions into which the mineral kingdom has been subdivided by chemists, either earthy, metallic, saline, or bituminous minerals."

92. Allen v. Farmers Union Co-op. Royalty Co., 538 P.2d 204 (Okla. 1975); Panhandle Cooperative Royalty Co. v. Cunningham, 495 P.2d 108 (Okla. 1971). *Cf.* River Rouge Minerals, Inc. v Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976).

93. Northern Pac. Ry. v. Soderberg, 188 U.S. 526 (1903) (iron and coal excluded from

A body produced by the processes of inorganic nature, having usually a definite chemical composition and, if formed under favorable conditions, a certain characteristic atomic structure which is expressed in crystalline form and other physical properties.[94] Some courts have therefore required that a substance have a definite chemical composition in order to be classified as a mineral.[95]

C. EXCLUSION OF "THE SOIL ITSELF"

Substances such as stone, sand, and gravel, which in some cases comprise all or a substantial part of the surface, are in such cases invariably held not to be included in a grant or reservation of minerals for the reason that to include such substances would be tantamount to granting or reserving the land itself.[96] Such a construction would, in the case of a reservation of minerals, completely nullify the grant fo the surface estate,[97] and would therefore be unreasonable.[98]

In *Bumpus v. United States*,[99] the Declaration of Taking in an eminent domain proceeding reserved all oil, gas, and other minerals to "the owner or owners of the subsurface estate." In holding that gravel was not included in the reservation, the court said as follows: "It would be more reasonable to conclude that a reservation to the owners of the subsurface estate would be limited to minerals lying below the sufrace and not those exposed at the surface and lying near the surface of the land."[100] The fallacy inherent in this reasoning is that no "subsurface estate" was reserved in the Declaration of Taking,

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meaning of word "mineral").

94. E. DANA, A TEXTBOOK OF MINEROLOGY 1 (4th ed. 1932). *See* Carothers v. Mills, 233 S.W. 155 (Tex. Civ. App. 1921).

95. United States v. Aitken, 25 Phil. 7 (1913).

96. Harper v. Talladega County, 279 Ala. 365, 185 So. 2d 388 (1966); Farrell v. Sayre, 129 Colo. 368, 270 P.2d 190 (1954); Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928). *See* Hartwell v. Camman, 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854); Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947); Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918). In Waring v. Foden, [1932] 1 Ch. 276, ——, 86 A.L.R. 969, 979 (1931), a case much cited by American courts, Lord Justice Lawrence said: "[T]he word 'minerals' when found in a reservation out of a grant of land means substances exceptional in use, in value and in character . . . and does not mean the ordinary soil of the district which if reserved would practically swallow up the grant. . . ."

97. Farrell v. Sayre, 129 Colo. 368, 270 P.2d 190 (1954); Little v. Carter, 408 S.W.2d 207 (Ky. 1966); Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384 (1954); Holland v. Dolese Co., 540 P.2d 549 (Okla. 1975); Campbell v. Tennessee Coal, Iron & R. Co., 150 Tenn. 423, 265 S.W. 674 (1924); Atwood v. Rodman, 355 S.W.2d 206 (Tex. Civ. App. 1962); State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965); West Virginia Dep't of Highways v. Farmer, 228 S.E.2d 717 (W. Va. 1976). *See* Hartwell v. Camman, 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854). The courts have seldom, if ever, expressed any concern about nullifying the mineral reservation. *Cf.* Kalberer v. Grassham, 282 Ky. 430, 138 S.W.2d 940 (1940) (grant of minerals, reserving coal, natural gas, and coal oil).

98. Carson v. Missouri Pac. Ry., 212 Ark. 963, 209 S.W.2d 97, 1 A.L.R.2d 784 (1948); Kinder v. LaSalle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923); State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1954). *See* Campbell v. Tennessee Coal, Iron & Ry. Co., 150 Tenn. 423, 265 S.W. 674 (1924).

99. 325 F.2d 264 (10th Cir. 1963).

100. *Id.* at 267.

but rather the reservation was of "all oil, gas and other minerals." The term "subsurface estate" was apparently used in the Declaration of Taking to refer to the reserved mineral estate, under the erroneous assumption that the two phrases are identical in meaning.[101] The court was therefore not justified in considering the term "subsurface estate" as a limitation upon the reserved mineral estate.

D. MINERALS REMOVED BY "MINING"[102]

The word "mineral" is derived from the word "mine," and a strict etymological interpretation would define "mineral" as a substance dug out of the earth by means of a mine.[103] Therefore, a question closely related to the question of whether a grant or reservation of "minerals" is limited to those substances not comprising the soil itself is the question of whether a grant or reservation of "minerals" is limited to those substances which are removed by "mining."[104] In this regard, two distinctions may be made. First, "mining" may be limited to underground operations and thus distinguished from operations on the surface, such as strip mining and quarrying.[105] Second, "mining" may be limited to the extraction of minerals in the solid state and thus distinguished from the production of minerals such as oil and gas by means of wells.[106]

1. *"Mining" v. Quarrying"*

Some courts limit the word "minerals" to those substances which can be removed by mining operations underground which would not destroy the surface for agricultural purposes.[107] Most of these cases

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101. It appears that some legislators, lawyers, and judges labor under the misapprehension that the term "subsurface estate" is a recognized term in the field of mineral conveyancing. *See, e.g.*, Bumpus v. United States, 325 F.2d 264 (10th Cir. 1963); Act of Aug. 13, 1954, Pub. L. No. 83-587, § 8(b), 68 Stat. 718; 43 U.S.C. § 1613(f) (Supp. V 1975). The term "surface" or "surface estate" has a well recognized meaning which encompasses not only the superficies of the land but also all of the land not included in the mineral grant or reservation. Gearhart v. McAlester Fuel Co., 199 Ark. 981, 136 S.W.2d 679 (1940); Kansas Natural Gas Co. v. Bd. of County Comm'rs of the County of Neosho, 75 Kan. 335, 89 P. 750 (1907); Wilkes-Barre Twp. School Dist. v. Corgan, 402 Pa. 383, 170 A.2d 97 (1961). However, the complement of "surface" or "surface estate" is not "subsurface" or "subsurface estate" but rather "mineral" or "mineral estate."

102. *See* Annot., 1 A.L.R.2d 787 (1948).

103. Darville v. Roper, 3 Drew. 294, 61 Eng. Rep. 915, 10 Morr. Min. Rep. 406 (Ch. 1855).

104. The fact that a substance is not part of the soil itself does not necessarily mean that it may be removed by "mining," that is, by underground mining methods. Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918).

105. *See* White v. Miller, 200 N.Y. 29, 92 N.E. 1065, 140 Am. St. Rep. 618 (1910); Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928).

106. *See* Hudson v. McGuire, 188 Ky. 712, 223 S.W. 1101, 17 A.L.R. 148 (1920); Huie Hodge Lumber Co. v. Railroad Lands Co., 151 La. 197, 91 So. 676 (1922). *Cf.* Cornwell v. Buck & Stoddard, 28 Cal. App. 2d 333, 82 P.2d 516 (1938).

107. Carson v. Missouri Pac. Ry., 212 Ark. 963, 209 S.W.2d 97, 1 A.L.R.2d 784 (1948); Kinder v. LaSalle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923); Acker v. Guinn, 464 S.W.2d 348 (Tex. 1971); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949); Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928). *See* Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384 (1954); Eldridge v. Edmondson, 252 S.W.2d 605 (Tex. Civ.

deal with sand and gravel, building stone, and the like, substances which are in any event difficult to classify as being mineral or non-mineral, and which must be removed, if at all, by surface mining or quarrying methods. In these cases the courts assume that inorganic substances removed from the earth may be classified into two categories, those which must be removed by underground mining methods and those which must be removed by surface mining methods, and limit the word "minerals" to the former category. The fallacy of this approach was pointed out by the Supreme Court in *Northern Pacific Railroad Company v. Soderberg*[108] as follows;

> Nor do we approximate much more closely to the meaning of the word by treating minerals as substances which are "mined," as distinguished from those which are "quarried," since many valuable deposits of gold, copper, iron and coal lie upon or near the surface of the earth, and some of the most valuable building stone, such, for instance, as the Caen stone in France, is excavated from mines running far beneath the surface.[109]

The better rule, therefore, is that in determining whether a particular substance is a mineral, it is immaterial whether the mining operations employed to remove the substance are conducted entirely underground or substantially on the surface.[110]

2. *The Texas Rule: Acker v. Guinn*

The difficulties which can arise when the rule limiting minerals to those removable only by underground mining methods is applied

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App. 1952). Occasionally the court is influenced by the use of the term "mines and minerals." White v. Miller, 200 N.Y. 29, 92 N.E. 1065, 140 Am. St. Rep. 618 (1910); Brady v. Smith, 181 N.Y. 178, 73 N.E. 963, 106 Am. St. Rep. 531, 2 Ann. Cas. 636 (1905). *Cf.* Puget Mill. Co. v. Duecy, 1 Wash. 2d 421, 96 P.2d 571 (1939) ("Under a definition coupling [the word 'minerals'] with mines it would include all substances taken out of the bowels of the earth by the processes of mining."). The result mentioned in the text would not follow if the surface were not adaptable to agricultural purposes. Dierks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949); Cole v. McDonald, 236 Miss. 168, 109 So. 2d 628 (1959).

108. 188 U.S. 526 (1903).

109. *Id.* at 530. *Accord*, Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W Va. 20, ——, 97 S.E. 684, 686, 17 A.L.R. 144, 146-47 (1918), where the court stated as follows:

> It would not do to say that the term includes only such substances as are procured by tunneling and shafting, for it is well known that much gold was procured by the process of placer mining, and surely no one would contend that the term 'mineral' did not include gold, whether found upon the surface, in the bed of a stream, or as a result of shafting and tunneling for the ore. It is also well known that rich deposits of manganese and other like ores are found upon the surface of the earth, and are sometimes secured without either quarrying or mining, and it could not be contended that such ores when so found are not minerals, but when secured by the process of tunneling and shafting, or other similar mining processes, are minerals.

The court went on to hold, however, that the grant of mining rights appropriate to underground mining evidenced the intent of the parties to limit the word "minerals" to those substances removed by underground mining methods.

110. Diercks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949).

to substances otherwise generally recognized as minerals become evident upon consideration of several recent Texas cases. The Texas court held in *Acker v. Guinn*[111] that a substance is not included in a reservation of minerals if any portion of the substance lies so near the surface that to be extracted it must be removed by methods that will, in effect, consume or deplete the surface estate. The court reasoned as follows:

> The parties to a mineral lease or deed usually think of the mineral estate as including valuable substances that are removed from the ground by means of wells or mine shafts. . . . It is not ordinarily contemplated, however, that the utility of the surface for agricultural or grazing purposes will be destroyed or substantially impaired. Unless the contrary intention is affirmatively and fairly expressed, therefore, a grant or reservation of "minerals" or "mineral rights" should not be construed to include a substance that must be removed by methods that will, in effect, consume or deplete the surface estate.[112]

Several facets of the Texas rule should be noted. First, it is not sufficient that the substance "may" be produced by surface mining methods. It must be proved that, as of the date of the instrument being construed, if the substance near the surface had been extracted, that extraction would necessarily have consumed or depleted the surface.[113] It is obvious, therefore, that in Texas every inquiry into the meaning of the word "minerals" will involve a determination of the mining methods available at the time of the conveyance and the relative economics of those methods. Thus, if on the date of the conveyance severing the mineral estate, a seam of coal could have been economically extracted by underground mining methods, but surface mining methods were unkown or uneconomical, the coal could have been mined economically by surface mining methods, but underground mining methods would have been uneconomical or technically impractical, then the coal would not be included in the reservation of minerals. But what of the situation where both surface mining methods and underground mining methods are economical and technically practical, but the use of surface mining methods would be more profitable than the use of underground mining methods? Does the fact that underground mining methods are feasible take the case out of the rule of *Acker v. Guinn*, even though the owner of the coal will undoubtedly use surface mining methods? Or does the fact that the use of surface mining methods is almost a certainty, even though underground mining methods are feasible place the case within the

111. Acker v. Guinn, 464 S.W.2d 348 (Tex. 1971).
112. *Id.* at 352.
113. Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).

rule of *Acker v. Guinn*? Or does the effect of the mineral reservation depend upon the method by which the coal is actually mined?

Second, since the scope of a reservation depends to a great extent upon the economics and technology of mineral production at the time of the conveyance, successive grants or reservations of minerals using identical language may have different effects. For example, at a time when surface mining of deep seams of coal is not practical because no equipment large enough to economically remove the overburden is available, A conveys blackacre to B, reserving "all minerals" and warranting title to the interest conveyed. Later, after equipment which can economically remove the overburden becomes available, and at a time when underground mining of the coal in question is uneconomical, B conveys blackacre to C, reserving "all minerals" and warranting title to the interest conveyed. Under the rule of *Acker v. Guinn*, A has reserved the coal, but B has purported to convey and has warranted title to the coal.

Third, the rule of *Acker v. Guinn* had its inception in a desire to prevent, in the first instance, the destruction of "the surface for agricultural or grazing purposes." Therefore, if the method of extraction would have required the removal of the surface soil, it is immaterial that it would have been possible to restore or reclaim the surface.[114] The as yet unanswered question is whether the rule of *Acker v. Guinn* has any application to lands the surface of which is in any event unsuitable for agriculture or grazing.

Fourth, "The thinking or intention or knowledge of the parties, or the lack of knowledge, would also be immaterial."[115] Thus, the Texas rule is a rule of law, not a rule of construction.[116] Furthermore, it would appear that it is a rule of law based upon the geological facts as they exist at the time of the conveyance in which the mineral estate is severed, even though those geological facts are not known to the parties. Thus, for example, suppose the parties know only of a deep-lying vein of high-grade copper ore, mineable only by underground mining methods, and on the basis of that knowledge insert a reservation of "all minerals," intending to reserve the vein of copper. If it is subsequently determined that there exists on the property a large low grade copper porphyry deposit which, on the date of the conveyance in question could have been economically mined only by surface mining methods, under the rule of *Acker v. Guinn* the reservation of "all minerals" would not include copper. The owner of the mineral estate can therefore never be certain whether a particular mineral is included in the mineral estate until he has established

114. *Id. See also* Williford v. Spies, 530 S.W.2d 127 (Tex. Civ. App. 1975).
115. Reed v. Wylie, 554 S.W.2d 169, 172 (Tex. 1977).
116. Williford v. Spies, 530 S.W.2d 127 (Tex. Civ. App. 1975).

that the land contains no deposits of the particular mineral which, if mined on the date of the conveyance, would necessarily have been mined by surface mining methods.

Fifth, the value of the substance in question, either on the date of the instrument or at any subsequent date, is immaterial.[117] Also, presumably, the value of the substance in question as compared with the value of the surface for grazing or agricultural purposes is for the extraction of the substance in question, the rule of *Acker v. Guinn*, which was designed to prevent the destruction of the surface, would merely permit the surface to be destroyed by the owner of the surface estate rather than by the owner of the mineral estate.

Sixth, once it is determined that a particular substance is not included in a grant or reservation of minerals, that determination applies to all deposits of that substance in the particular property, at whatever depths they may be found. As the Texas court said:

> It is improper therefore to declare that the surface owner is entitled to only so much of the substance as may be produced by strip mining or pit mining. We are not dividing the right to produce the substance; we are construing the instrument of conveyance to ascertain the ownership of the substance.[118]

It is not clear whether the rule of *Acker v. Guinn* would apply to all land described in a particular deed or only on a parcel by parcel basis. Where several parcels of land are being conveyed with a reservation of minerals, it may be prudent to execute a separate deed for each parcel, to avoid the possibility that a near-surface deposit of minerals on one parcel would cause the rule of *Acker v. Guinn* to be applied to all land included in the transaction.

It appears that the rule of *Acker v. Guinn* contains enough mischief to provide employment for several generations of Texas real property and mineral lawyers.

E. STATUTES

In several states, statutes have placed a limitation upon the word "minerals" as used in private conveyances and in other contexts.

1. *Colorado*

A Colorado statute relating to conveyancing provides as follows:

> As respects instruments executed prior to May 17, 1974, which convey title to real property or an interest therein, it

117. Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).
118. *Id.* at 172.

shall be presumed that reference to minerals or mineral rights does not include geothermal resources unless geothermal resources are specifically mentioned. As respects such instruments executed on or after May 17, 1974, reference to minerals or mineral rights shall not include geothermal resources unless specifically mentioned.[119]

2. *Florida*

A Florida statute enacted in 1959 provides as follows: "Whenever the word "minerals" is hereafter used in any deed, lease or other contract in writing, said word or term shall not include any of the following: topsoil, muck, peat, humus, sand and common clay, unless expressly provided in said deed, lease or other contract in writing."[120]

3. *Illinois*

The Illinois Uniform Principal and Income Act, in providing for the disposition of proceeds of an interest in minerals or natural resources, provides as follows: "For purposes of this section, the terms 'minerals' and 'natural resources' do not include soil, sod, dirt, turf, water or mosses."[121]

4. *Michigan*

A Michigan statute dealing with the sale or lease of state lands provides as follows: "For the purpose of this section, 'mineral rights' shall not include 'sand, clay or other nonmetallic minerals.' "[122]

5. *North Dakota*

A North Dakota statute enacted in 1969 provides as follows:

No conveyance of mineral rights or royalties separate from the surface rights in real property in this state, excluding leases, shall be construed to grant or convey to the grantee thereof any interest in and to any gravel, coal, clay or uranium unless the intent to convey such interest is specifically and separately set forth in the instrument of conveyance.

No lease of mineral rights in this state shall be construed as passing any interest to any minerals except those minerals specifically included and set forth by name in the

119. COLO. REV. STAT. ANN. § 38-35-121 (Supp. 1976).
120. FLA. STAT. ANN. § 689.20 (West 1969).
121. ILL. ANN. STAT. tit. 30, § 168 (Smith-Hurd Supp. 1977). Section 9(c) of the Revised Uniform Principal and Income Act provides: "This section does not apply to timber, water, soil, sod, dirt, turf, or mosses."
122. MICH. STAT. ANN. § 13-441 (1973).

> lease. For the purposes of this paragraph the naming of either a specific metalliferous element, or nonmetalliferous element, and if so stated in lease, shall be deemed to include all of its compounds and by-products, and in the case of oil and gas, all associated hydrocarbons produced in a liquid or gaseous form so named shall be deemed to be included in the mineral named. The use of the words "all other minerals" or similar words of an all-inclusive nature in any lease shall not be construed as leasing any minerals except those minerals specifically named in the lease and their compounds and by-products.[123]

In *Reiss v. Rummel*[124] the North Dakota Supreme Court held that this statute did not apply in the case of a reservation or exception of mineral interests. Thereafter, in 1975, North Dakota enacted the following statute:

> In any deed, grant, or conveyance of the title to the surface of real property executed on or after July 1, 1975, in which all or any portion of the minerals are reserved or excepted and thereby effectively precluded from being transferred with the surface, the use of the word "minerals" or the phrase "all other minerals" or similar words or phrases of an all-inclusive nature shall be interpreted to mean only those minerals specifically named in the deed, grant, or conveyance and their compounds and byproducts.[125]

V. INTERPRETATION

A. CHOICE OF LAW

Except where a federal statute is involved,[126] the interpretation of the word "minerals" in a grant or reservation is a question of state law and the federal courts are controlled by the law of the particular state in which the question arises.[127]

B. DISTINCTION BETWEEN STATUTES AND PRIVATE CONVEYANCES

In determining the meaning of the word "minerals" in a statute, it is appropriate to look to the intended purpose of the statute and

123. N.D. CENT. CODE § 47-10-24 (Supp. 1977).
124. 232 N.W.2d 40 (N.D. 1975).
125. N.D. CENT. CODE § 47-10-25 (Supp. 1977).
126. *See* United States v. Bumpus, 325 F.2d 264 (10th Cir. 1963),.
127. Sloan v. Peabody Coal Co., 547 F.2d 115 (10th Cir. 1977); Western Coal Min. Co. v. Middleton, 362 F.2d 48 (8th Cir. 1966); Mothner v. Ozark Real Estate Co., 300 F.2d 617 (8th Cir. 1962); Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958); New York State Nat. Gas Corp. v. Swan-Finch Gas Dev. Corp., 278 F.2d 577 (3rd Cir. 1950); Rowe v. Chesapeake Min. Co., 156 F.2d 752 (6th Cir. 1946); Shell Oil Co. v. Dye, 135 F.2d 365 (7th Cir. 1943); Crain v. Pure Oil Co., 25 F.2d 824 (8th Cir. 1928); Thomas v. Markham & Brown, Inc., 353 F. Supp. 498 (E.D. Ark. 1973); Mining Corp. of Arkansas v. International Paper Co., 324 F. Supp. 705 (W.D. Ark. 1971);

to the means of accomplishing that purpose by the proper application of the language used.[128] If a grant or reservation is made pursuant to a federal or state statute, it must be construed in light of the statute pursuant to which it was made.[129] Public grants receive a construction which supports the claim of the government rather than that of the individual. Nothing passes by implication, and unless the language of the grant is clear and explicit as to the property conveyed, a construction will be adopted which favors the sovereign rather than the grantee.[130] In construing private grants, on the other hand, the intention of the parties controls,[131] and such grants are frequently construed most strongly against the grantor.[132] Therefore, cases interpreting public grants may not be particularly helpful in interpreting a private grant,[133] even where a public grant and a private grant relate to the same lands.[134]

C. CONSTRUCTION OF LANGUAGE OF INSTRUMENT OR STATUTE

1. *Generally*

It is remarkable that, considering the number of cases in which the question of whether a particular substance is a mineral arises, the courts have infrequently addressed themselves to whether the question is one of law or of fact. The Supreme Court, in a case involving the application of a tariff act using the words "mineral and bituminous substances in a crude state," said as follows: "The words used are not technical, either as having a special sense by commercial usage, nor as having a scientific meaning different from their popular meaning. They are the words of common speech, and, as such, their interpretation is within the judicial knowledge, and, therefore, matter of law."[135]

In Texas the word "minerals" includes oil and gas as a matter of law,[136] and in North Dakota whether coal and lignite are minerals

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Dierks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949). *See* Delta Drilling Co. v. Arnett, 186 F.2d 481 (6th Cir. 1950); United States *ex rel.* Tennessee Valley Auth. v. Harris, 115 F.2d 343 (5th Cir. 1940).

128. State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965).

129. Burke v. Southern Pac. Ry., 234 U.S. 669 (1914); Collins v. Coastal Petroleum Co., 118 So. 2d 796 (Fla. App. 1960); Abbey v. State, 202 N.W.2d 844 (N.D. 1972); Salzseider v. Brunsdale, 94 N.W.2d 502 (N.D. 1959); Adams County v. Smith, 74 N.D. 621, 23 N.W.2d 873 (1946); State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965).

130. United States v. Soderberg, 188 U.S. 526 (1903).

131. *See* notes 157-70 *infra*, and text accompanying.

132. *See* notes 222-32 *infra*, and text accompanying.

133. *See* Geothermal Kinetics v. Union Oil Co., ——Cal. App. 3d——, 141 Cal. Rptr. 879 (1977); Whittel v. Wolff, 249 Ore. 217, 437 P.2d 114 (1968); Campbell v. Tennessee Coal, Iron & Ry. Co., 150 Tenn. 423, 265 S.W. 674 (1924); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949). *But cf.* Rowe v. Chesapeake Mineral Co., 156 F.2d 752 (6th Cir. 1945).

134. *See* Missouri Pac. Ry. v. Strohacker, 202 Ark. 645, 152 S.W.2d 563 (1941).

135. Marvel v. Merritt, 116 U.S. 11, 12 (1885).

136. Southland Royalty Co. v. Pan American Petroleum Corp., 378 S.W.2d 50 (Tex. 1964); Anderson & Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 136 S.W.2d 800, 127 A.L.R. 1217 (1940); Rio Bravo Oil Co. v. McEntire, 128 Tex. 124, 95 S.W.2d 381, *aff'd in*

has been held to be a question of law.[137] A lower Texas court, on the other hand, has stated that whether a given substance is or is not a mineral within the meaning of a grant or reservation is usually a question of fact,[138] and the Arkansas courts have maintained that whether a substance is included in a grant or reservation of "minerals" is a question of fact.[139] It is probably more correct to say that it is a mixed question of law and fact. In any event, it is a question to be decided in light of the purpose of the instrument,[140] the circumstances of the particular case,[141] and the context in which the words of grant or reservation are used.[142] The entire instrument must be considered,[143] and therefore it is essential that the court have before it not only the granting clause or reservation itself but all of the provisions of the instrument containing the grant or reservation.[144] Effect must be given to each relevant word and clause,[145] and when a particular word or phrase is used, it should not be interpreted so as to vitiate specific provisions of the conveyance.[146]

As a general rule, where language of certain import is used in an instrument, it will be presumed that the parties intended the language to have its ordinary and accepted meaning, unless there is a clear expression of intent that the language was used in a different sense.[147] Therefore, where there is a grant or reservation of "minerals" without other words of limitation or restriction,[148] it is generally held that all substances legally cognizable as minerals

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part, rev'd in part on rehearing, 128 Tex. 124, 96 S.W.2d 1110 (1936).

137. Christman v. Emineth, 212 N.W.2d 543 (N.D. 1973) (lignite); Abbey v. State, 202 N.W.2d 844 (N.D. 1972) (coal).

138. Fleming Foundation v. Texaco, Inc., 337 S.W.2d 846 (Tex. Civ. App. 1960).

139. Mothner v. Ozark Real Estate Co., 300 F.2d 617 (8th Cir. 1962); Brizzolara v. Powell, 214 Ark. 870, 218 S.W.2d 728 (1949).

140. Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947).

141. *Id. See also* Fleming Foundation v. Texaco, Inc., 337 S.W.2d 846 (Tex. Civ. App. 1960).

142. Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947); State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965).

143. Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973); River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976); Praeletorian Diamond Oil Ass'n v. Garvey, 15 S.W.2d 698 (Tex. Civ. App. 1929); Murphy v. Van Voorhis, 94 W. Va. 475, 119 S.E. 297 (1923); Dawson v. Meike, 508 P.2d 15 (Wyo. 1973) (the term "mineral lease" construed in light of reservation of "oil, gas and kindred minerals"). In Wulf v. Shultz, 211 Kan. at ——, 508 P.2d at 900, the Kansas court attached unusual importance to the title of the document. The court said:

> Of importance is the fact that the original parties to the lease designated it an "OIL AND GAS LEASE". These words in themselves are limiting. If the parties, at the time the lease was executed, desired the lessees to have more than a simple lease for oil and gas, they would have broadened the title of the leasing instrument.

144. It is error to sustain a demurrer to a complaint if the entire document is not incorporated in the complaint. Puget Mill. Co. v. Duecy, 1 Wash. 2d 421, 96 P.2d 571 (1939).

145. Schreier v. Chicago & N. Ry., 96 Ill. App. 2d 425, 239 N.E.2d 281 (1968); Beck v. Harvey, 196 Okla. 270, 164 P.2d 399 (1944); State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565 (1907); Burdette v. Bruen, 118 W. Va. 624, 191 S.E. 360 (1937).

146. Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958); MacMaster v. Onstad, 86 N.W.2d 36 (N.D. 1957).

147. Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918).

148. *Cf.* Besing v. Ohio Valley Trust Co., 155 Ind. App. 527, ——, 293 N.E.2d 510, 513-14,

are granted or reserved,[149] and that if the ordinary and accepted meaning is to be changed or restricted, the langugae used to do so must be reasonably clear to show that intent.[150] The burden of proof is upon the party who contends that the grant or reservation encompasses less than the law would attribute to the word "minerals."[151] In Oklahoma, on the other hand, it is held that "all rights. . . which are not conferred in direct terms or by fair implication are to be considered withheld."[152]

The rule discussed in the preceding paragraph is of limited use in borderline cases, for there remains the problem of determining what substances are "legally cognizable as minerals." As a Texas court said in *Psencik v. Wessels*:[153]

> No doubt every inorganic component of the earth's crust is legally *cognizable* as mineral, if the parties affected choose so to deal with it; and this no doubt is true regardless of whether it may be removed or extracted for commercial or other profitable purposes. We know of no rule which would deny the owner of the soil the right to sever the title of any such component from the general title to the soil. Such severance would unquestionably constitute a mineral title. The term "legally cognizable as minerals" must therefore be restricted to such minerals and mineral substances as are commonly regarded as minerals as distinguished from the soil in general.[154]

The intent of the parties, therefore, is not their subjective intent

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59 A.L.R.3d 1137, 1143 (1973): "In the instant case there was not a grant of all minerals without qualifying language, but rather a grant of 'other minerals' as qualified by the words 'oil, gas, and' immediately preceding 'other minerals'."

149. Rowe v. Chesapeake Mineral Co., 156 F.2d 752 (6th Cir. 1946); Stowers v. Huntington Dev. & Gas Co., 72 F.2d 969 (4th Cir. 1934); Dingess v. Huntington Dev. & Gas Co., 271 F. 864 (4th Cir. 1921); Lovelace v. Southwest Petroleum Co., 267 F. 513 (6th Cir. 1920); Federal Gas, Oil & Coal Co. v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941); Kalberer v. Grassham, 282 Ky. 430, 138 S.W.2d 940 (1940); Maynard v. McHenry, 271 Ky. 642, 113 S.W.2d 13 (1938); Kentucky-West Virginia Gas Co. v. Preece, 260 Ky. 601, 86 S.W.2d 163 (1935); Bolen v. Casebolt, 252 Ky. 17, 66 S.W.2d 19 (1933); Scott v. Laws, 185 Ky. 440, 215 S.W. 81, 13 A.L.R. 369 (1919); Kentucky Diamond Min. & Developing Co. v. Kentucky Transvaal Diamond Co., 141 Ky. 97, 132 S.W. 397 (1910); Weaver v. Richards, 156 Mich. 320, 120 N.W. 818 (1909); Bulger v. McCourt, 179 Neb. 316, 138 N.W.2d 18 (1965); White v. Miller, 200 N.Y. 29, 92 N.E. 1065, 140 Am. St. Rep. 618 (1910); Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947); Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955); Warren v. Clinchfield Coal Co., 166 Va. 524, 186 S.E. 20 (1936); Burdette v. Bruen, 118 W. Va. 624, 191 S.E. 360 (1937); Norman v. Lewis, 100 W. Va. 432, 130 S.E. 913 (1926); Sult v. Hochstetter Oil Co., 63 W. Va. 317, 61 S.E. 307 (1908).

150. McCombs v. Stevenson, 154 Ala. 109, 44 So. 867 (1907); Silver v. Bush, 213 Pa. 195, 62 A. 832 (1906); Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932). *See* Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958); MacMaster v. Onstad, 86 N.W.2d 36 (N.D. 1957); Burdette v. Bruen, 118 W. Va. 624, 191 S.E. 360 (1937); Horse Creek Land & Min. Co. v. Midkiff, 81 W. Va. 616, 95 S.E. 26 (1918).

151. United States v. 1,253.14 Acres of Land, 455 F.2d 1177 (10th Cir. 1972); Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 562 (1955).

152. Cronkhite v. Falkenstein, 352 P.2d 396, 398 (Okla. 1960).

153. Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947).

154. *Id.* at 660-61.

but their objective intent, which is to be determined by considering the common meaning of the word mineral at the date of the instrument in question.[155]

Words may shift in meaning over a peroid of time, but in construing an instrument they must be read in the sense in which they were commonly used when the instrument was written and in which the parties then understood them.[156]

2. *Intent*

In construing a deed or other instrument granting or reserving minerals the courts usually say that the purpose of construing an instrument is to give effect to the intention of the parties;[157] that in construing a grant or reservation of minerals it is necessary, if possible, to ascertain the intention of the parties;[158] that the intention of the parties controls,[159] or at least is a primary consideration,[160] in the interpretation of an instrument; that where the intention of the parties can be ascertained from the instrument, arbitrary rules of construction will not be used;[161] and that even where the words used by the parties have a well-defined technical meaning, the context may qualify the technical meaning so as to construe it to conform to the intention of the parties.[162]

The difficulties with determining the "intention of the parties" is that in the typical case which comes before the court the parties have given no thought whatever to whether the substance in question should be included in or excluded from the grant or reservation of minerals. The court must therefore determine the "intention of the parties" by determining, as best it can, what the intention of the parties would have been had they thought about the matter. In so doing, the court must look first to the language of the instrument itself, and the express language of an instrument, taken as a whole, will overcome any supposed intention.[163]

In the typical case the court is presented with the problem of

155. Thomas v. Markham & Brown, Inc., 353 F. Supp. 498 (E.D. Ark. 1973).
156. Franklin Fluorspur Co. v. Hosick, 239 Ky. 454 29 S.W.2d 665 (1931); Carothers v. Mills, 233 S.W. 155 (Tex. Civ. App. 1921).
157. Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918).
158. Clements v. Morgan, 307 Ky. 496, 221 S.W.2d 164 (1948); Brady v. Smith, 181 N.Y. 178, 73 N.E. 963, 106 Am. St. Rep. 531, 2 Ann. Cas. 636 (1905); Gibson v. Tyson, 5 Watts 34, 13 Morr. Min. Rep. 72 (Pa. 1836).
159. Clements v. Morgan, 307 Ky. 496, 211 S.W.2d 164 (1948); Hudson v. McGuire, 188 Ky. 712, 223 S.W. 1101, 17 A.L.R. 148 (1920); Silver v. Bush, 213 Pa. 195, 62 A. 832 (1906); Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955); Murphy v. Van Voorhis, 94 W. Va. 475, 119 S.E. 297 (1923).
160. Dierks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949); Schreier v. Chicago & N. Ry., 96 Ill. App. 2d 425, 239 N.E.2d 281 (1968); Cronkhite v. Falkenstein, 352 P.2d 396 (Okla. 1960).
161. Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955).
162. Murphy v. Van Voorhis, 94 W. Va. 475, 119 S.E. 297 (1923).
163. *Id.*

determining whether one or more particular substances, not specifically mentioned in the instrument itself, are to be included within the meaning of the word "minerals." The efforts of the court are thus directed toward determining the nonexistent intention of the parties with respect to the particular substances in question, rather than the general intent of the parties with respect to their use of the word "minerals." For example, in *McKinney's Heirs v. Central Kentucky Natural Gas Co.*,[164] the Kentucky court said as follows:

> [T]he only question to be considered is whether the conveyances referred to include natural gas. It will be observed that gas is not specifically mentioned in either of the deeds; but in all of them the word "minerals" is used, which counsel for the parties concede, when given its broadest meaning, includes natural gas. But the question to be determined is: What was the intention of the parties to the deeds at the times they were made? Did the grantors understand at that time that oil and gas were minerals and would pass with the other minerals named in the conveyances; and did they intend to convey the gas? In other words, did the minds of the parties to the conveyances meet upon the question? Did the one understand that he was conveying, and the other that he was purchasing, the gas thereunder? If not, the gas did not pass with the conveyances.[165]

This mineral-by-mineral approach manifests itself in discussions of the knowledge of the parties to a conveyance of the presence of the particular substance in the land in question, or of its value if its presence be known,[166] or of the absence or existence of development of the particular substance in the vicinity.[167] The "mineral by mineral" approach to determining the "intention" of the parties will seldom result in a finding that a substance not specifically named is deemed to be a mineral, for the courts apply a sort of beg-the-question rule of construction by holding that a particular substance is not included in a grant or reservation of "minerals" on the ground that if the parties had intended to include the substance they would have mentioned it specifically.[168] For example, in *McKinney's Heirs* the court said as follows:

> [I]f the excitement at that time was caused by the discovery of natural gas, it is strange that in drawing the conveyances they did not use words which would have, without doubt, included natural gas. . . . If natural gas was in the minds of the parties at the time of the execution of the conveyances, we

164. 134 Ky. 239, 120 S.W. 314, 20 Ann. Cas. 934 (1909).
165. *Id.* at ——, 120 S.W. at 315.
166. *See* notes 258-72 *infra*, and text accompanying.
167. *See* notes 273-78 *infra*, and text accompanying.
168. Wulf v. Shultz, 211 Kan. 724, ——, 508 P.2d 896, 901 (1973) ("Surely, if the parties

> would expect to find expressions or terms which would refer specifically to the rights and privileges necessary to the development of it.[169]

Notwithstanding decisions such as these, it must be recognized that a determination that the parties did not have a particular substance in mind is not a solution of the problem of whether that substance is included in the term "minerals," but is merely a statement of the problem.

If the interpretation of an instrument is governed by a positive rule of law, the intention of the parties is, of course, immaterial.[170]

3. *Ejusdem Generis*

Courts sometimes apply the rule of construction known by the Latin phrase *ejusdem generis;* that is, "of the same kind."[171] Under this rule, where general words follow the enumeration of particular minerals,[172] the general words will be construed as applicable only to minerals of the same general character or class as those enumerated.[173] For example, in holding that water is not included in a grant

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had contemplated that the lease was to cover minerals other than oil and gas, or related substances, they would have mentioned them specifically in the lease."); McKinney's Heirs v. Central Kentucky Natural Gas Co., 134 Ky. 239, ——, 120 S.W. 314, 316 20 Ann. Cas. 934, —— (1909) ("We may here remark that, if the excitement at time was caused by the discovery of natural gas, it is strange that in drawing the conveyances they did not use words which would have, without doubt, included natural gas."); Holloway Gravel Co. v. McKowen, 200 La. 917, ——, 9 So. 2d 228, 234 (1942) ("It would have been a very simple matter, granting that all the parties agreed to the reservation of sand and gravel, to have used those words in addition to the words 'mineral, oil and gas rights'."); Detlor v. Holland, 57 Ohio 492, 49 N.E. 690, 40 L.R.A. 266 (1898) ("If [oil was intended to be included in the conveyance], apt words would have been used to express such intention."); Mack Oil Co. v. Laurence, 389 P.2d 955 (Okla. 1964); Bundy v. Myers, 372 Pa. 583, 94 A.2d 724 (1953); Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882) ("Moreover, we may be very sure that when Wood & Co. made their contract with Kirkpatrick, they did not intend to reserve the mineral oil that might afterward be found in the land, otherwise that intention would have been expressed in no doubtful terms."); Beury v. Shelton, 151 W. Va. 28, ——, 144 S.E. 629, 633 (1928) ("If it had been intended to reserve limestone, it seems rather clear that it would have been done explicitly. . . ."); Murphy v. Van Voorhis, 94 W. Va. 475, ——, 119 S.E. 297, 299 (1923) ("If it was intended to reserve the gas, coal, clays, manganese, or any other mineral of like kind or character, would it not be incumbent upon the grantor to so state? Can we write these other words into the reservation?). *See* Keller v. Ely, 192 Kan. 698, 391 P.2d 132 (1964) ("had the grantor (Ely) intended to reserve gypsum it would have been very easy to have specifically said so in the quite lengthy reservation").

169. 134 Ky. at ——, 120 S.W. at 316. The mineral-by-mineral approach in *McKinney's Heirs* seems to have been rejected by the Kentucky court in the subsequent case of Kentucky Diamond Min. & Developing Co. v. Kentucky Transvaal Diamond Co., 141 Ky. 97, 132 S.W. 397, Ann. Cas. 1912C 417 (1910). *See* note 270 *infra*, and text accompanying.

170. Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).

171. Bumpus v. United States, 325 F.2d 264 (10th Cir. 1963); State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965); West Virginia Dep't of Highways v. Farmer, 228 S.E.2d 717 (W. Va. 1976).

172. The rule does not apply where the general words precede the enumeration of specific minerals. Anderson Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 136 S.W.2d 800, 127 A.L.R. 1217 (1940). *Contra*, Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942).

173. Bumpus v. United States, 325 F.2d 264 (10th Cir. 1963); Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973); Keller v. Ely, 192 Kan. 698, 391 P.2d 132 (1964); Cronkhite v. Falkenstein, 352 P.2d 396 (Okla. 1960); Wolf v. Blackwell Oil & Gas Co., 77 Okla. 81, 186 P. 484 (1920); Right of Way Oil Co. v. Gladys City Oil Co., 106 Tex. 94, ——, 157

of "oil, petroleum, gas, coal, asphalt and all other minerals of every kind or character" the Oklahoma court in *Vogel v. Cobb*[174] said as follows:

> The minerals specifically named in the deeds (coal, oil, petroleum, gas and asphalt) are of a species or class which does not include water. The former are valuable minerals of a somewhat similar chemical composition, existing in limited amounts, which are ordinarily extracted from the earth and sold for profit, but which serve no useful function in connection with the use and enjoyment of the surface. Water, on the other hand, is of quite a different chemical composition, is not ordinarily thought of as valuable, but is necessary to life and the use and enjoyment of the surface.[175]

The difficulty in applying the rule of *ejusdem generis* comes in determining what general character of the named minerals must be found in the other minerals. For example, the general character of coal may be that it is a hydrocarbon,[176] that it is primarily used for fuel,[177] that it is usually the subject of prospecting and mining,[178] or that it is a solid mineral in place,[179] requiring mining for its removal instead of drilling,[180] among others. As a Texas court said in *Luse v. Boatman*:[181]

> If we should apply the rule of ejusdem generis, what qualities or peculiarities of the specified type, "coal," shall be considered in determining the classification intended by the use of the word "mineral"? Are we to classify according to value? If so, can it be said that oil and gas on the one hand and coal on the other are of different kinds or species of minerals? If we classify as to use, is it not true that all

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S.W. 737, 740 (1913) (the phrase "timber, earth, stone and mineral" does not include oil and gas because "the general words will not include any of a class superior to that to which the particular words belong"); State Land Bd. v. State Dep't of Fish and Game, 17 Utah 2d 237, 408 P.2d 707 (1965). *See* Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942). The naming of but one mineral is not an enumeration. Shell Oil Co. v. Dye, 135 F.2d 365 (7th Cir. 1943).

174. 193 Okla. 64, 141 P.2d 276 (1943).

175. *Id.* at ——, 141 P.2d at 280. *Cf.* People's Gas Co. v. Tyner, 131 Ind. 277, 31 N.E. 59, 16 L.R.A. 443, 31 Am. St. Rep. 433 (1892) ("Water, petroleum, oil, and gas are generally classed by themselves as minerals possessing in some degree a kindred nature").

176. *See* Shell Oil Co. v. Dye, 135 F.2d 365 (7th Cir. 1943); Christman v. Emineth, 212 N.W.2d 543 (N.D. 1973) (lignite); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927).

177. *See* Shell Oil Co. v. Dye, 135 F.2d 365 (7th Cir. 1943); Christman v. Emineth, 212 N.W.2d 543 (N.D. 1973) (lignite).

178. State Land Bd. v. State Dep't of Fish and Game, 17 Utah 2d 237, 408 P.2d 707 (1965).

179. Christman v. Emineth, 212 N.W.2d 543 (N.D. 1973) (lignite).

180. Huie Hodge Lumber Co. v. Railroad Lands Co., 151 La. 197, 91 So. 676 (1922). In Federal Gas, Oil & Coal v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941), the grant was of "coal salt-water and minerals". The court held that the doctrine of *ejusdem generis* did not exclude oil and gas because "the deed conveys both solid and liquid minerals and it is within the common knowledge of mankind that oil is usually found in salt-water, or at least in close proximity thereto." *Id.* at ——, 161 S.W.2d at 48.

181. 217 S.W. 1096 (Tex. Civ. App. 1919).

> three are used for fuel? Shall the classification be determined by the form, density, color, weight, value, or uses of the particular species mentioned? Taking either value, use, or nature of origin as the basis of the classification mentioned, can we say that oil and coal do not belong to the same class? It is true that coal in its commercial form is found in a solid state, while oil is a liquid. But are we justified in limiting the minerals intended to be included in the reservation to those only which are found in a solid state? Such evident difficulty in applying the rule of ejusdem generis to the terms of the reservation under consideratiion renders it an unsafe guide, and we do not believe any aid in the interpretation of the terms used in the reservation will be afforded by such rule.[182]

For the reasons expressed in the foregoing quotation, some courts have rejected the rule.[183]

In *Bundy v. Myers*[184] it was contended that under the rule of *ejusdem generis* natural gas should be included in a reservation of "oil, coal, fire clay and minerals," but the Pennsylvania court held that it was not included, saying as follows: "If oil and gas were intended to be included in the 'minerals' reserved, then why was the oil expressly reserved? *Expressio unius est exclusio alterius.*"[185] This curious bit of judicial reasoning not only does away with the rule of *ejusdem generis*, but effectively nullifies the phrase "and minerals," for it might be said of any mineral sought to be brought within the scope of the reservation, why was that mineral excluded, while coal, or oil, or fire clay was expressly reserved?

The problem of determining the "general character" of the named minerals is of particular importance in applying the rule of *ejusdem generis* to grants or reservations of, or leases for, "oil, gas and other minerals." Some courts have held that the term "other minerals" is limited to hydrocarbons,[186] while other courts have limited it to minerals, whether hydrocarbon or non-hydrocarbon, produced as a component or constituent of oil and gas,[187] or to minerals that

182. *Id.* at 1099.

183. Southland Royalty Co. v. Pan American Petroleum Corp., 378 S.W.2d 50 (Tex. 1964); Luse v. Boatman, 217 S.W. 1097 (Tex. Civ. App. 1919); Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955). *See* Shell Oil Co. v. Dye, 135 F.2d 365 (7th Cir. 1943); Christman v. Emineth, 212 N.W.2d 548 (N.D. 1973); Acker v. Guinn, 464 S.W.2d 348 (Tex. 1971).

184. 372 Pa. 583, 94 A.2d 724 (1953).

185. *Id.* at ——, 94 A.2d at 726.

186. West Virginia Dep't of Highways v. Farmer, 228 S.E.2d 717 (W. Va. 1976). *See* Norman v. Lewis, 100 W. Va. 432, 130 S.E. 913 (1926). *Contra*, Sloan v. Peabody Coal Co., 547 F.2d 115 (10th Cir. 1977) (chemical similarity between coal and oil does not render them of the same general character.)

187. Allen v. Farmers Union Co-operative Royalty Co., 538 P.2d 204 (Okla. 1975); Panhandle Co-operative Royalty Co. v. Cunningham, 495 P.2d 108 (Okla. 1971); West v. Aetna Life Insurance Co., 536 P.2d 393 (Okla. App. 1974). In *Panhandle* the Oklahoma court said, "we did not use *ejusdem generis* in our interpretation of this deed," but rather held that the phrase "other minerals" is unambiguous and served solely the "special purpose" of extending the connotation of oil and gas to include casinghead gas and "other

can be produced in connection with, and as an incident of the production of oil and gas by means of a well.[188] The North Dakota courts, relying upon other provisions of the instrument to be construed, have rejected both limitations.[189]

The problem of determining the appropriate general character of the named minerals can be avoided, of course, by the simple expedient of merely stating that the substance in question is not of the same general character as the named minerals, without attempting to state exactly what that general character is.[190]

The rule of *ejusdem generis* is a rule of construction only, and therefore there are a number of circumstances in which it should not be applied. First, the rule should not be applied to avoid giving the words of a statute or instrument their ordinary meaning. In *Nephi Plaster & Mfg. Co. v. Juab County*,[191] the Utah court expanded upon this principle as follows:

> The doctrine of ejusdem generis is, however, only a rule of construction, and, like all rules, is resorted to only as an aid to the courts in ariving at the true intent of the lawmaker. These rules must not be applied so as to make them masters, since they are designed as servants merely. No rules of construction, however, can be permitted to override the fundamental principle underlying all rules which requires that all words contained within a statute must, if possible, be given their ordinary meaning, and that the intention of the lawmaker must be gathered from the language employed in the light of the context and of the subject-matter to which it is applied, and when such intention is clear it must prevail notwithstanding some rules to the contrary.[192]

Second, the rule should not be applied where the intention is clear and unambiguous.[193] The general words following the enumer-

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minerals produced as oil or gas or produced as a component or constituent thereof." In *Allen*, however, the Oklahoma court said that in *Panhandle* "we used the rule of *ejusdem generis*."

188. River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976). *Cf.* Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 228 (1942) ("the reservation indicates that only minerals likened unto oil and gas, and not to solids, such as sand and gravel, were in the contemplation of the parties"); Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384 (1954) (in the phrase "oil, gas, and other minerals" the term "other minerals" refers to "other minerals of like kind and character which are not a part of the soil, such as the oil and gas specifically mentioned").

189. Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958); MacMaster v. Onstad, 86 N.W.2d 36 (N.D. 1957).

190. Bumpus v. United States, 325 F.2d 264 (10th Cir. 1963); Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973); Keller v. Ely, 192 Kan. 698, 391 P.2d 132 (1964); Cronkhite v. Falkenstein, 352 P.2d 396 (Okla. 1960); Wolf v. Blackwell Oil & Gas Co., 77 Okla. 81, 186 P. 484 (1920) ("oil and other minerals" does not include gas because "other minerals" must be construed to be minerals "of like character"); Highland v. Commonwealth, 400 Pa. 261, 161 A.2d 390 (1960); Fleming Foundation v. Texaco, Inc., 337 S.W.2d 846 (Tex. Civ. App. 1960).

191. 33 Utah 114, 93 P. 53, 14 L.R.A. (N.S.) 1043 (1907).

192. *Id.* at ——, 93 P. at 56.

193. Cole v. McDonald, 236 Miss. 108, 109 So. 2d 628 (1959); Anderson Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 136 S.W.2d 800, 127 A.L.R. 1217 (1940); Burdette v.

ation of particular minerals may be so all-encompassing as to indicate that the rule should not be applied. For example, a reservation of named minerals "and all other minerals of any kind whatsoever" is not a proper case for the application of the rule.[194]

Third, conversely, where the particular things enumerated are complete so that there remain no others of like kind, then the things which fall within the general words must be assumed to be of a different kind, and the rule of *ejusdem generis* is not applicable.[195]

At times a court, although not appying the rule of *ejusdem generis*, will be influenced by an enumeration of substances.[196] For example, in *Henry v. Lowe*,[197] a statute providing for treble damages against any person who digs, quarries, or carries away "any stones, ore or mineral, gravel, clay or mould, roots, fruits or plants" was held to include coal, the court saying as follows:

> The statute does not undertake to enumerate the various ores or minerals, for the disturbance or removal of which it allows damages, but it embraces all minerals. Coal is a well known mineral of great value, which has been mined in this State from an early period, and it would appear strange indeed if the law should punish the removal of stone, gravel or clay with treble damages, and allow only single damages for the wrongful removal of coal.[198]

Occasionally the reservation itself will incorporate language indicating that the "other minerals" must be similar to those enumerated. For example, a reservation of "all of the oil, gas and kindred minerals" does not include uranium.[199]

4. *Grant or Reservation of Operating or Mining Rights*

The grant or reservation of a mineral estate includes by necessary implication the grant or reservation of the right to use so much of the surface as is reasonably necessary for the enjoyment of the mineral estate.[200] If the deed by which the mineral estate is severed also undertakes to grant or reserve specific operating or mining rights, and if those rights are granted or reserved by language having reference to a particular mineral or kind of mineral, it may be con-

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Bruen, 118 W. Va. 624, 191 S.E. 360 (1937). *See* Panhandle Cooperative Royalty Co. v. Cunningham, 495 P.2d 108 (Okla. 1971).

194. Watkins v. Certain-Teed Products Corp., 231 S.W.2d 981 (Tex. Civ. App. 1950). *But see* Vogel v. Cobb, 193 Okla. 64, 141 P.2d 276 (1943).

195. Nephi Plaster & Mfg. Co. v. Juab County, 33 Utah 114, 93 P. 53, 14 L.R.A. (N.S.) 1043 (1907).

196. *See* Besing v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1137 (1973).

197. 73 Mo. 96 (1880).

198. *Id.* at 99.

199. Dawson v. Meike, 508 P.2d 15 (Wyo. 1973).

200. Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932).

tended that the grant or reservation of the specific rights was intended to be a limitation upon the generality of the word "minerals."[201]

Some courts, therefore, look to the grant or reservation of operating or mining rights for an indication of the intention of the parties, and the fact that the rights granted or reserved are not appropriate to the development of the mineral in question has been held to demonstrate a lack of intention to grant or reserve that particular mineral.[202] Thus, where a reservation of mines and minerals was accompanied by a reservation of the right to "dig and carry the same away," the court said "the word 'dig' has a technical meaning, when the context is considered, and does not apply to open quarrying and blasting."[203] Similarly, the phrase "the right to mine and raise the same" has been interpreted as showing that a reservation was intended to be limited to minerals which could be mined and raised by underground workings without destruction of the surface.[204] One case has gone so far as to hold that the granting of a right-of-way leading to "the deposit" evidences an intent that the lease cover only the minerals specifically named, notwithstanding the inclusion of the phrase "and all other minerals or mineral derivatives."[205] The more modern trend is to interpret the grant or reservation of mining rights as placing no limitations or restrictions upon the grant or reservation of minerals.[206] In light of these two lines of authority, the Utah court has held that a reservation of mining rights renders the deed ambiguous, thus allowing the consideration of extrinsic evidence regarding the situation of the parties at the time of execution,

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201. Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932) (grant of mining rights did not indicate an intention to limit mineral grant to coal only); Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918). *See* Christman v. Emineth, 212 N.W.2d 543 (N.D. 1973).

202. Monon Coal Co. v. Riggs, 115 Ind. App. 236, 56 N.E.2d 672 (1944); McKinney's Heirs v. Central Kentucky Natural Gas Co., 134 Ky. 239, 120 S.W. 314, 20 Ann. Cas. 934 (1909); Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942); Huie Hodge Lumber Co. v. Railroad Lands Co., 151 La. 197, 91 So. 676 (1922); Detlor v. Holland, 57 Ohio St. 492, 49 N.E. 690, 40 L.R.A. 266 (1898); Gordon v. Carter Oil Co., 19 Ohio App. 319 (1924); Rock House Fork Land Co. v. Raleigh Brick & Tile Co., 83 W. Va. 20, 97 S.E. 684, 17 A.L.R. 144 (1918). The inference arising from the grant or reservation of mining rights cannot prevail over the express language of the grant or reservation. Federal Gas, Oil & Coal Co. v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941).

203. Brady v. Smith, 181 N.Y. 178, ——, 73 N.E. 963, 964, 106 Am. St. Rep. 531, ——, 2 Ann. Cas. 636, —— (1905).

204. Kinder v. La Salle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923). *See* Armstrong v. Lake Champlain Granite Co., 147 N.Y. 495, 42 N.E. 186, 49 Am. St. Rep. 683, 18 Morr. Min. Rep. 279 (1895).

205. Davis v. Plunkett, 187 Kan. 121, 353 P.2d 514 (1960).

206. Delta Drilling Co. v. Arnett, 186 F.2d 481 (6th Cir. 1950); Rowe v. Chesapeake Mineral Co., 156 F.2d 752 (6th Cir. 1946); Shell Oil Co. v. Dye, 135 F.2d 365 (7th Cir. 1943); Collins v. Coastal Petroleum Co., 118 So. 2d 796 (Fla. App. 1960); Shell Oil Co. v. Moore, 382 Ill. 556, 48 N.E.2d 400 (1943); Schreier v. Chicago & N. Ry., 96 Ill. App. 2d 425, 239 N.E.2d 281 (1968); Sellars v. Ohio Valley Trust Co., 248 S.W.2d 897 (Ky. 1952); Federal Gas, Oil & Coal Co. v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941); Kentucky-West Virginia Gas Co. v. Preece, 260 Ky. 601, 86 S.W.2d 163 (1935).

the circumstances surrounding the transaction, and the intent of the parties.[207]

The verb "mine" is broad enough to include drilling for oil,[208] and indeed is now commonly used to include the extraction of oil and gas by means of wells.[209] Therefore, there is no particular significance in the fact that an oil, gas, and other minerals lease authorizes the lessee to "mine,"[210] or that a grant or reservation of oil, gas, and other minerals includes the right to "mine."[211] Nevertheless, the verb "mine" is an all-inclusive word which in its ordinary sense includes every operation by which usable materials are extracted from the earth, and the use of the word in a lease does not suggest an interpretation limited to the extraction of oil and gas, but rather an unlimited interpretation, if such interpretation is not otherwise inhibited.[212] On the other hand, the provisions of an oil, gas, and other minerals lease may be so completely directed toward the production of oil and gas by means of wells as to negate any suggestion that hard minerals are included.[213]

In *State Land Board v. State Department of Fish & Game*[214] the Utah court construed a statutory reservation of the right to "prospect, mine, and to remove" deposits of "all coal and other mineral" as plainly indicating that the reservation was intended to apply to seeking and finding "precious metals and other minerals of that character," not sand and gravel.

5. *Effect of Royalty Clause*

In construing a grant or reservation of minerals, whether by deed or lease, in which a royalty is reserved, it may be necessary to consider the royalty clause in order to determine what substances

207. Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955).
208. Luse v. Boatman, 217 S.W. 1096 (Tex. Civ. App. 1919).
209. Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958); Besing v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1137 1937); River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976); MacMaster v. Onstad, 86 N.W.2d 36 (N.D. 1957); Gill v. Weston, 110 Pa. 312, 1 A. 921 (1885)("[Petroleum] is a mineral substance obtained from the earth by a process of mining and lands from which it is obtained may, with propriety, be called mining lands.").
210. Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958); River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976); MacMaster v. Onstad, 86 N.W.2d 36 (N.D. 1957).
211. Besing v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1137 (1973).
212. Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958); MacMaster v. Onstad, 86 N.W.2d 36 (N.D. 1957).
213. Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973)(adroitly explaining away the fact that royalty was payable "near the mouth of the well or wells or at the mouth of the pit or shaft"); River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976). *See* Praeletorian Diamond Oil Ass'n v. Garvey, 15 S.W.2d 698 (Tex. Civ. App. 1929). *But see* River Rouge Minerals, Inc. v. Energy Resources of Minn., ——La.——, 337 So. 2d 221 (1976)(Dixon J., dissenting: "[L]ignite is a 'mineral' clearly included in the o. & g. lease and covered by the royalty clause: 'On all other minerals or kindred products mined,' etc.").
214. 17 Utah 2d 237, 408 P.2d 707 (1965).

were intended to be included in the term "minerals" or "other minerals."[215] For example, a grant of "all mineral rights" which reserved a production payment of ten percent "of all minerals reserved by this deed as determined by gross receipts less haulage allowance and penalties for high lime content" and further referring to the production payment as an "ore payment" has been held not to include oil and gas.[216] If an oil, gas, and other minerals lease provides for a royalty on sulfur, the term "other minerals" cannot be limited to hydrocarbons[217] or to minerals produced in connection with and as an incident to the production of oil and gas by means of a well.[218]

An oil, gas, and other minerals lease may provide that the lessee "shall deliver free of cost to the lessor in pipe lines or tanks one eighth of all the oil or other minerals." This type of royalty clause has been held to negate the possibility that solid minerals, such as sand and gravel, were included in the term "other minerals."[219]

6. *Effect of Clause Limiting Liability of Mineral Owner for Damage to Surface*

When the mineral estate is severed from the surface estate, the owner of the mineral estate will frequently cause the conveyance to contain a clause limiting or negating his liability for injury to the surface estate. Such a clause will give the courts ample cause to limit the reservation of minerals to those substances which can be removed without injury to the surface estate.[220]

7. *Deletions on Form Instruments*

The deletion of the words "salt water, oil, gas" from a granting clause in a form instrument which originally read "coal, salt water, oil, gas and mineral" does not constitute a reservation of the minerals deleted, if the grantor so intended.[221]

8. *Construction Against Grantor*

Sometimes the courts refer to the principle that a deed admitting of more than one construction will be construed most strongly against the grantor,[222] particularly if the grantor is himself an attorney.[223]

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215. Doster v. Friedensville Zinc Co., 140 Pa. 147, 21 A. 251 (1891).
216. Patterson v. Wilcox, 11 Utah 2d 264, 358 P.2d 88 (1961).
217. Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958); MacMaster v. Onstad, 86 N.W.2d 36 (N.D. 1957).
218. *Id. Contra*, River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976).
219. Praeletorian Diamond Oil Ass'n v. Garvey, 15 S.W.2d 698 (Tex. Civ. App. 1929).
220. Carson v. Missouri Pac. Ry., 212 Ark. 963, 209 S.W.2d 97, 1 A.L.R.2d 784 (1948).
221. Rowe v. Chesapeake Mineral Co., 156 F.2d 752 (6th Cir. 1946).
222. Kentucky Coke Co. v. Keystone Gas Co., 296 F. 320 (6th Cir. 1924); McCombs v. Stephenson, 154 Ala. 109, 44 So. 867 (1907); Keller v. Ely, 192 Kan. 698, 391 P.2d 132 (1964); Rudd v. Hayden, 265 Ky. 495, 97 S.W.2d 35 (1936); Franklin Fluorspar Co. v.

In a few cases this principle is the deciding factor,[224] but the reliance placed upon this principle is usually but a make-weight factor.

If the deed is not shown to have been prepared by the grantor, the rule does not apply.[225] The circumstances of the preparation and execution of the deed may be such that the principle should not be applied.[226] For example, in *Patterson v. Wilcox*[227] the Utah court said as follows:

> We agree that generally speaking, language in instruments of grant is construable more strongly against the grantor. But also there is this: that where a lawyer solicits a purchase contract from one unlearned in the law, unrepresented by legal counsel, and who trusts and permits such lawyers to become amanuensis, author and draftsman for such an unlearned one, good conscience and common sense dictate that any of the terms of the contract, if nuclear, incomplete or subject to more than one interpretation that interpretation that most favors the layman will prevail. This, even though such layman be a grantor and even though there exists the general rule mentioned above. We think that under the circumstances of this case where there was a solicitation by an interested attorney for the purchase of land from a rancher in the middle of the night in a remote camp, with only ore in mind, lend themselves to the application of such principle.[228]

In any event, the rule is not applicable where the intent of the parties appears from the instrument[229] or may otherwise be shown,[230] and some courts reject the rule entirely, looking solely to the intent of the parties.[231]

In at least two states, by statute, a reservaton is to be construed in favor of the grantor.[232]

Hosick, 239 Ky. 454, 39 S.W.2d 665 (1931); Kentucky Diamond Min. & Developing Co. v. Kentucky Transvaal Diamond Co., 141 Ky. 97, 132 S.W. 397 (1910); Mack Oil Co. v. Laurence, 389 P.2d 955 (Okla. 1964); Bundy v. Myers, 372 Pa. 583, 94 A.2d 724 (1953); Campbell v. Tennessee Coal, Iron & R. Co., 150 Tenn. 423, 265 S.W. 674 (1924); Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928); West Virginia Dep't of Highways v. Farmer, 228 S.E.2d 717 (W. Va. 1976); Murphy v. Van Voorhis, 94 W. Va. 475, 119 S.E. 297 (1923); Horse Creek Land & Min. Co. v. Midkiff, 81 W. Va. 616, 94 S.E. 26 (1918). *See* Holloway Gravel Co. v. McKowen, 200 La. 917, 9 S.E.2d 228 (1942).

223. Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384 (1954).

224. Hartwell v. Camman, 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854): "Perplexed with doubts, I found I could only extricate myself from a difficulty by making most of the maxim, 'The words of an instrument shall be taken most strongly against the party using them'."

225. Besing v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1173 (1973).

226. Patterson v. Wilcox, 11 Utah 2d 264, 358 P.2d 88 (1961).

227. 11 Utah 2d 264, 358 P.2d 88 (1961).

228. *Id.* at ——, 358 P.2d at 91.

229. Barker v. Campbell-Ratcliff Land Co., 64 Okla. 249, 167 P. 468 (1917).

230. Besing v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1173 (1973).

231. Vang v. Mount, 300 Minn. 393, 220 N.W.2d 498 (1974).

232. CAL. CIV. CODE § 1069 (West 1954); N.D. CENT. CODE § 47-09-13 (1960).

9. *Other Rules of Construction*

In one case the rule that the first clause governs unless the intention to qualify clearly appears has been applied.[233] The rule *expressio unius est exclusio alterius* has been used in holding that a reservation of "oil, coal, fire clay and minerals" did not include natural gas.[234]

D. EXTRINSIC EVIDENCE

1. *Admissibility of Extrinsic Evidence*

If a deed or other instrument is free from ambiguity, the intention of the parties must be gathered from an inspection of the instrument itself,[235] without the aid of extrinsic evidence,[236] but if the instrument is so ambiguous as to leave the mind in doubt as to what the parties intended, extrinsic evidence may be resorted to as an aid in the construction of the instrument,[237] even though no effort is made to reform the instrument on the ground of mistake.[238]

Some courts consider a reservation of "minerals" to be ambiguous,[239] particularly where minerals such as sand and gravel[240] or common rock[241] are involved. Other courts find that a reservation of "minerals" is unambiguous and refuse to admit extrinsic evidence of the intention of the parties.[242] The Oklahoma courts, evidencing an attitude perhaps understandable in light of the importance of petro-

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233. McCombs v. Stephenson, 154 Ala. 109, 44 So. 867 (1907).

234. Bundy v. Myers, 372 Pa. 583, 94 A.2d 724 (1953).

235. Gibson v. Sellars, 252 S.W.2d 911 (Ky. 1952); Rudd v. Hayden, 265 Ky. 495, 97 S.W.2d 35 (1936); Praeletorian Diamond Oil Assn'n v. Garvey, 15 S.W.2d 698 (Tex. Civ. App. 1929); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927).

236. Rowe v. Chesapeake Mineral Co., 156 F.2d 752 (6th Cir. 1946); Roth v. Huser, 147 Kan. 433, 76 P.2d 871 (1938); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949); Anderson Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 136 S.W.2d 800, 127 A.L.R. 1217 (1940); Williford v. Spies, 530 S.W.2d 127 (Tex. Civ. App. 1975); Bruen v. Thaxton, 126 W. Va. 330, 28 S.E.2d 59 (1943). In *Heinatz*, however, the court in determining whether limestone was included in a grant of minerals, looked to "the evidence as to the nature of the limestone, its relation to the surface of the land, its use and value, and the method and effect of its removal."

237. Kentucky Coke Co. v. Keystone Gas Co., 296 F. 320 (6th Cir. 1924); Besing v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1137 (1973); Federal Gas, Oil & Coal Co. v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941); Rice v. Blanton, 232 Ky. 195, 225 S.W.2d 580 (1929); Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942); Praeletorian Diamond Oil Ass'n v. Garvey, 15 S.W.2d 698 (Tex. Civ. App. 1929); Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928); Weyerhauser Co. v. Burlington Northern, Inc., 15 Wash. App. 314, 549 P.2d 54 (1976); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927).

238. Hudson v. McGuire, 188 Ky. 712, 223 S.W. 1101, 17 A.L.R. 148 (1920).

239. Besing v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1137 (1973); Monon Coal Co. v. Riggs, 115 Ind. App. 236, 56 N.E.2d 672 (1944); Vang v. Mount, 300 Minn. 393, 220 N.W.2d 498 (1974). *See* Carothers v. Mills, 233 S.W. 155 (Tex. Civ. App. 1921).

240. United States v. 1,253.14 Acres of Land, 455 F.2d 1177 (10th Cir. 1972).

241. Weyerhauser Co. v. Burlington Northern, Inc., 15 Wash. App. 314, 549 P.2d 54 (1976).

242. Sloan v. Peabody Coal Co., 547 F.2d 115 (10th Cir. 1977); New Mexico & Arizona Land Co. v. Elkins, 137 F. Supp. 767 (D.N.M. 1956); Maynard v. McHenry, 271 Ky. 642, 113 S.W.2d 13 (1938); Williford v. Spies, 530 S.W.2d 127 (Tex. Civ. App. 1975); Warner v. Patton, 19 S.W.2d 1111 (Tex. Civ. App. 1929)

leum in that state, hold that a grant or reservation of "oil, gas and other minerals" is unambiguous (the "other minerals" being limited primarily to casinghead gas),[243] but that a grant or reservation of "oil, gas, coal and other minerals" is ambiguous.[244]

In construing a reservation of minerals, the entire instrument must be considered, and the question is not whether the granting clause or the reservation is ambiguous but whether the instrument itself is ambiguous.[245] Thus, the inclusion of specific language relating to mining rights may render ambiguous an otherwise unambiguous grant or reservation.[246] The West Virginia court has held that a reservation of "oil, gas and other minerals" is ambiguous when "considered along with the surrounding circumstances and past activities concerning this property,"[247] thus apparently countenancing the use of extrinsic evidence to create an ambiguity in an otherwise unambiguous reservation.

Extrinsic evidence may not be used to show that the parties intended that a grant of "minerals," unambiguous in itself; have a more restrictive meaning for the purposes of the particular instrument.[248] As the New Jersey court said in *Hartwell v. Camman*:[249]

> No extrinsic evidence is admissible for the purpose of showing that the grantor intended to confine the words "mines and minerals" to copper ore only. If the grantor can do this, then it follows he may, by parol evidence, show that the parties fixed an arbitrary meaning to words upon which the whole efficacy of the deed depends, contrary to their natural and ordinary import and popular acceptation.[250]

In particular, self-serving testimony regarding the unexpressed subjective intention of the grantor cannot be admitted.[251]

Extrinsic evidence might, under some circumstances, be admis-

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243 Allen v. Farmers Union Co-operative Royalty Co., 538 P.2d 204 (Okla. 1975); Panhandle Cooperative Royalty Co. v. Cunningham, 495 P.2d 108 (Okla. 1971); West v. Aetna Life Insurance Co., 536 P.2d 393 (Okla. App. 1974).

244. Panhandle Cooperative Royalty Co. v. Cunningham, 495 P.2d 108 (Okla. 1971).

245. *But see* Beury v. Shelton, 151 Va. 28, ——, 144 S.E. 629, 631 (1928), where the court stated as follows:

"But the necessity of resorting to the description of the rights reserved along with the substance reserved is in itself some indication that what is included in the substance reserved is not clear."

246. Hudson v. McGuire, 188 Ky. 712, 223 S.W. 1101, 17 A.L.R. 148 (1920); Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955).

247. West Virginia Dep't of Highways v. Farmer, 228 S.E.2d 917 (W. Va. 1976).

248. Lovelace v. Southwest Petroleum Co., 267 F. 513 (6th Cir. 1920); Roth v. Huser, 147 Kan. 433, 76 P.2d 871 (1938); Sellars v. Ohio Valley Trust Co., 248 S.W.2d 897 (Ky. 1952); Hartwell v. Camman, 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854); Armstrong v. Lake Champlain Granite Co., 147 N.Y. 495, 42 N.E. 186, 49 Am. St. Rep. 683, 18 Morr. Min. Rep. 279 (1895); Warner v. Patton, 19 S.W.2d 1111 (Tex. Civ. App. 1929). *But see* Carothers v. Mills, 233 S.W. 155 (Tex. Civ. App. 1921). *Contra*, Nance v. Donk Brothers Coal & Coke Co., 13 Ill. 2d 399, 151 N.E.2d 97 (1958) (four justices disagreeing).

249. 10 N.J. Eq. 128, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854).

250. *Id.* at ——, 64 Am. Dec. at 452-53.

251. Vang v. Mount, 300 Minn. 393, 220 N.W.2d 498 (1974).

sible in an action between the parties to reform the instrument where it would not be admissible for the purpose of determining the rights of the parties under the instrument as written.[252]

2. *Circumstances of Execution*

Where extrinsic evidence is used as an aid in construing a grant or reservation of minerals, the intention of the parties must be determined in light of the circumstances as they existed at the time of the execution of the instrument to be construed.[253] Of particular importance, of course, is the meaning which the parties themselves placed upon the langugae of the grant or reservation.[254] Among the circumstances to be considered is the business in which the grantor or grantee, as the case may be, is engaged.[255] Thus, the fact that at the time of the execution of a conveyance reserving minerals the grantor is not engaged in any business which would render a deposit of gravel of any use to him has been considered, among other factors, as indicating that the gravel was not included in the reservation.[256] Similarly, a deed executed at the height of the uranium boom and containing language tailored to the circumstances of uranium mining on the Colorado Plateau has been held not to include oil and gas, the court saying that "the language used in the atmosphere of the time justified a determination by the court of the intentions of the parties."[257]

3. *Knowledge of Presence or Value of Mineral*

Some cases, in holding that a particular substance is not included in a grant or reservation of minerals, refer to the fact that the parties did not know that the particular substance was present in the land or that it had any commercial value,[258] and hence did not intend to include it in the grant or reservation.[259] For example, in *Deer Co. v. Michigan Land & Iron Co.*,[260] the Michigan court

252. Stewart Oil Co. v. Sohio Petroleum Co., 202 F. Supp. 952 (E.D. Ill. 1962); Armstrong v. Lake Champlain Granite Co., 147 N.Y. 495, 42 N.E. 186, 49 Am. St. Rep. 683, 18 Morr. Min. Rep. 279 (1895). *See* Nance v. Donk Brothers Coal & Coke Co., 13 Ill. 2d 399, 151 N.E.2d 97 (1958) (concurring opinions of Justices House and Bristow).

253. Panhandle Cooperative Royalty Co. v. Cunningham, 495 P.2d 108 (Okla. 1971).

254. Gibson v. Tyson, 5 Watts 34, 13 Morr. Min. Rep. 72 (Pa. 1836). *See* Rice v. Blanton, 232 Ky. 195, 22 S.W.2d 580 (1929).

255. Monon Coal Co. v. Riggs, 115 Ind. App. 236, 56 N.E.2d 672 (1944).

256. Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384 (1954).

257. Patterson v. Wilcox, 11 Utah 2d 264, 358 P.2d 88 (1961).

258. On the question of commercial value in fact, see *supra* notes 73-86, and text accompanying.

259. Carson v. Missouri Pac. Ry., 212 Ark. 963, 209 S.W.2d 97, 1 A.L.R.2d 784 (1948); Missouri Pac. Ry. v. Strohacker, 202 Ark. 645, 152 S.W.2d 557 (1941); Kinder v. LaSalle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923); Detlor v. Holland, 57 Ohio St. 492, 49 N.E. 690, 40 L.R.A. 266 (1898). *See* Carothers v. Mills, 233 S.W. 155 (Tex. Civ. App. 1921). *Cf.* Hart v. Associated Oil Co., 261 S.W. 506 (Tex. Civ. App. 1924) (expressly declining to decide case on this ground).

260. 89 Mich. 180, 50 N.W. 807 (1891).

held that because iron was the only valuable mineral known at the time of the execution of the deed, a reservation of "all mines and ores of metals" would not include quarries or deposits of marble, since the reservation would include only "mines and ores of metals and minerals in common use, and commonly known as such." This holding has been referred to as a "singular conclusion" and criticized on the ground that such an interpretation would defeat the prime object of a large proportion of the reservations and grants of mineral rights.[261]

In Arkansas the concept that the intention of the parties is to be determined in light of their knowledge of the presence of particular minerals in the land has been developed to the point where it has become virtually a rule of law based upon the accepted meaning of the word "minerals" in the area. In *Missouri Pac. Ry. v. Strohacker*[262] a reservation of "all coal and mineral deposits" was held not to include oil and gas on the ground that oil and gas were not commonly recognized as minerals on the date the deed containing the reservation was executed.[263] Although the Arkansas courts refer to the *Strohacker* rule as a means for determining, as a question of fact,[264] the intent of the parties, the recent cases indicate that it is not the subjective intent of the parties that controls, but rather whether the particular substance in question was commonly recognized as a mineral on the date the deed containing the grant or reservation of minerals was executed.[265] The determination of whether a particular substance was commonly recognized as a mineral on the date of the deed appears at first to have been made on a statewide basis.[266] Subsequent cases, however, have indicated that a separate determination must be made for each county,[267] and a recent federal case holds that a reservation of minerals includes only those

261. McCombs v. Stephenson, 154 Ala. 109, 44 So. 867 (1907). A close reading of the reservation in *Deer Lake*, however, would suggest that in any event it was limited to metallic minerals only.

262. 202 Ark. 645, 152 S.W.2d 557 (1941).

263. *Accord*, Western Coal & Min. Co. v. Middleton, 362 F.2d 48 (8th Cir. 1966); Mothner v. Ozark Real Estate Co., 300 F.2d 617 (8th Cir. 1962); Thomas v. Markham & Brown, Inc., 353 F. Supp. 498 (E.D. Ark. 1973) (pulaskite); Mining Corp. of Arkansas v. International Paper Co., 324 F. Supp. 705 (W.D. Ark. 1971) (mercury); Singleton v. Missouri Pac. Ry., 205 F. Supp. 113 (E.D. Ark. 1962); Stegall v. Bugh, 228 Ark. 632, 310 S.W.2d 251 (1958); Brizzolara v. Powell, 214 Ark. 870, 218 S.W.2d 728 (1949); Carson v. Missouri Pac. Ry., 212 Ark. 963, 209 S.W.2d 97, 1 A.L.R.2d 784 (1948) (bauxite); Missouri Pac. Ry. v. Furqueron, 210 Ark. 460, 196 S.W.2d 588 (1946).

264. Western Coal & Min. Co. v. Middleton, 362 F.2d 48 (8th Cir. 1966); Singleton v. Missouri Pac. Ry., 205 F. Supp. 113 (E.D. Ark. 1962); Brizzolara v. Powell, 214 Ark. 870, 218 S.W.2d 728 (1949).

265. Thomas v. Markham & Brown, Inc., 353 F. Supp. 498 (E.D. Ark. 1973); Singleton v. Missouri Pac. Ry., 205 F. Supp. 113 (E.D. Ark. 1962); Ahne v. Reinhardt & Donovan Co., 240 Ark. 691, 401 S.W.2d 565 (1968); Stegall v. Bugh, 228 Ark. 632, 310 S.W.2d 251 (1958).

266. Carson v. Missouri Pac. Ry., 212 Ark. 963, 209 S.W.2d 97, 1 A.L.R.2d 784 (1948); Missouri Pac. Ry. v. Strohacker, 202 Ark. 645, 152 S.W.2d 557 (1941).

267. Ahne v. Reinhardt & Donovan Co., 240 Ark. 691, 401 S.W.2d 565 (1966); Stegall v. Bugh, 228 Ark. 632, 310 S.W.2d 251 (1958).

minerals known to exist "in the area embraced by the deed."[268]

The better rule is that in a grant or reservation of minerals it is immaterial what minerals were known or supposed at the time of the conveyance to be present in the land.[269] As the Kentucky court said in *Kentucky Diamond Min. & Developing Co. v. Kentucky Transvaal Diamond Co.*:[270]

> The deed here simply conveys "all the minerals." These general words aptly include very kind of mineral found on the land. Would it be doubted that, if gold had been discovered, it would have passed by this deed, although Ratcliff at the time thought he would find silver. Or if he had failed to find silver and had found lead, would it be doubted that this would pass by the deed? It may be true that, when the deed was made, the parties did not know what minerals were under the land, but the fact that they did not have diamonds in mind in no manner affects the conveyance when by it they conveyed all the mineral. When the language of the deed is broad enough to cover everything that may be found on the land, it is not material to the effect of the deed that the parties in fact contemplated at the time that a particular thing might be found on the land. They well knew it was a matter of doubt what would be found. To make the tests shafts had to be sunk, and the different strata had to be examined. What would be found they could only guess, and, when under these circumstances the parties conveyed all the mineral, the grantee is entitled to the precious stones found no less than he would be if he had found platinum or radium, which is perhaps more precious than diamonds.[271]

The knowledge of the parties is material only in ascertaining their intentions. If under some positive rule of law a substance is determined not to be a mineral, the knowledge of the parties regarding its presence or absence is immaterial.[272]

4. *Local Mineral Development*

The absence or existence of local development of a particular

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268. Mining Corp. of Arkansas v. International Paper Co., 324 F. Supp. 705 (W.D. Ark. 1971).

269. Rowe v. Chesapeake Min. Co., 156 F.2d 752 (6th Cir. 1946); Stowers v. Huntington Dev. & Gas Co., 72 F.2d 969 (4th Cir. 1934); New Mexico & Arizona Land Co. v. Elkins, 137 F. Supp. 767 (D.N.M. 1956); Geothermal Kinetics v. Union Oil Co., ——Cal. App. 3d——, 141 Cal. Rptr. 879 (1977); Renshaw v. Happy Valley Water Co., 114 Cal. App. 2d 521, 250 P.2d 612 (1952); Sellars v. Ohio Valley Trust Co., 248 S.W.2d 897 (Ky. 1952); Maynard v. McHenry, 271 Ky. 642, 113 S.W.2d 13 (1938); Kentucky Diamond Min. & Developing Co. v. Kentucky Transvaal Diamond Co., 141 Ky. 97, 132 S.W. 397, Ann. Cas. 1912C 417 (1910); Armstrong v. Lake Champlain Granite Co., 147 N.Y. 495, 42 N.E. 186, 49 Am. St. Rep. 683, 18 Morr. Min. Rep. 279 (1895); Southland Royalty Co. v. Pan American Petroleum Corp., 378 S.W.2d 50 (Tex. 1964); Cain v. Neuman, 316 S.W.2d 915 (Tex. Civ. App. 1958); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927); Sult v. Hochstetter Oil Co., 63 W. Va. 317, 61 S.E. 307 (1908).

270. 141 Ky. 97, 132 S.W. 397, Ann. Cas. 1912C 417 (1910).

271. *Id.* at ——, 132 S.W. at 398.

272. Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).

substance at the time of the execution of the instrument in which the grant or reservation of minerals appears is frequently asserted to be indicative of an intention to exclude that particular substance from or include it within the meaning of the word "minerals." Some cases hold that the absence of local development of a particular mineral is sufficient evidence from which to conclude that the mineral was not intended to be included in a grant or reservation of minerals.[273] It has been said, however, that the inferences which may be drawn from the absence of such development are too uncertain and even contradictory to make evidence of such development helpful,[274] and many cases hold that the mere fact that a particular mineral has not been discovered or developed in the vicinity would not preclude the granting of rights to that mineral or limit a grant to something less general than all the substance legally cognizable as minerals.[275] Conversely, the existence of local development of a particular substance is not a circumstance from which it can be inferred that the parties intended to include that substance in a grant or reservation of minerals.[276]

In Texas, under the rule of *Acker v. Guinn*,[277] it is immaterial that the substance in question was being produced in the vicinity by underground mining methods if the portion of the substance located at or near the surface would have been extracted only by a method which would have destroyed the surface.[278]

5. *Prior or Contemporaneous Grants or Reservations*

A grant of minerals by the owner of the fee may be followed by a grant of the fee itself, excepting or reserving the minerals

273. Missouri Pac. Ry. v. Strohacker, 202 Ark. 645, 152 S.W.2d 557 (1941); Hule Hodge Lumber Co. v. Railroad Lands Co., 151 La. 197, 91 So. 676 (1922); Detlor v. Holland, 57 Ohio St. 492, 49 N.E. 690, 40 A.L.R. 266 (1898). *See* Clements v. Morgan, 307 Ky. 496, 211 S.W.2d 164 (1948); Hollaway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942). Some cases holding that a particular substance is not a mineral mention the absence of local development without according that fact any particular significance. *See, e.g.*, Kentucky Coke Co. v. Keystone Gas Co., 296 F. 320 (6th Cir. 1924); Farrell v. Sayre, 129 Colo. 368, 270 P.2d 190 (1954); River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976).

274. Dingess v. Huntington Dev. & Gas Co., 271 F. 864 (4th Cir. 1921). *See* Sellars v. Ohio Valley Trust Co., 248 S.W.2d 897 (Ky. 1952)("this evidence . . . may be said to 'cut both ways' ").

275. Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955); Rowe v. Chesapeake Mineral Co., 156 F.2d 752 (6th Cir. 1946); Maynard v. McHenry, 271 Ky. 642, 113 S.W.2d 13 (1938); Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955). *See* People *ex rel.* Carrell v. Bell, 237 Ill. 332, 86 N.E. 593, 19 L.R.A. (N.S.) 746, 15 Ann. Cas. 511 (1908)(act relating to taxation of "mining right, or the right to dig for or obtain . . . mineral" held applicable to oil and gas, even though when act was passed in 1861 "petroleum was not as extensive an article of commerce in this state as it has since become"); Gill v. Weston, 110 Pa. 312, 1 A. 921 (1885)(act relating to mining lands held applicable to petroleum lands, even though act was passed before discovery of petroleum).

276. Dierks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949); Cole v. McDonald, 236 Miss. 168, 109 So. 2d 628 (1959); Barker v. Campbell-Ratcliff Land Co., 64 Okla. 249, 167 P. 468 (1917). *Contra*, Silver v. Bush, 213 Pa. 195, 62 A. 832 (1906).

277. 464 S.W.2d 348 (Tex. 1971).

278. Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).

granted. If the words used to grant the minerals are different from the words subsequently used to except or reserve the minerals, a question may arise as to whether the exception or reservation was intended to be coextensive with or greater than the previous grant of minerals. In such cases, the courts tend to construe the exception or reservation as being coextensive with the previous grant.[279] For example, where a grant of "all the coal and mining rights and privileges" (which was agreed to convey coal only) was followed by a reservation of "all the coal and mineral privilege," the latter phrase was held to be equivalent to the former.[280]

If a grant of "minerals" is accompanied by a contemporaneous grant of the "surface,"[281] and if it clearly appears that the intention of the grantor is to convey the entire fee simple title, the word "minerals" would include everything except the surface.[282] The same result follows where a grant of "minerals" is accompanied by an express reservation of the "surface,"[283] or where a grant of the "surface" is accompanied by an express reservation of "minerals."[284]

The fact that a particular substance is the subject of a reservation which is separate from but contemporaneous with a reservation of "minerals" may indicate that the parties did not interpret the reservation of "minerals" as including that substance or similar substances.[285]

A grant of minerals by the owner of the mineral estate may use language different from the language of the grant by which he acquired the mineral estate. In one such case, the court found that the inclusion of natural gas in the grant to the owner of the mineral estate and the omission of natural gas from the subsequent grant by the owner of the mineral estate indicated that natural gas was not intended to be included in the second grant.[286]

6. *Subsequent Conduct of the Parties*

It is, of course, proper to consider the construction which the parties themselves have placed upon the language of the grant or reservation.[287] Actions or statements of one or both of the parties to

279. Kentucky Coke Co. v. Keystone Gas Co., 296 F. 320 (6th Cir. 1924).
280. Clements v. Morgan, 307 Ky. 496, 211 S.W.2d 164 (1948) ("Can there be any difference here except the difference between tweedledee and tweedledum?").
281. The word "surface," when used without any qualifying language, ordinarily signifies only the superficial part of the land. Drummond v. White Oak Fuel Co., 104 W. Va. 368, 140 S.E. 57, 56 A.L.R. 303 (1927).
282. Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932).
283. Federal Gas, Oil & Coal Co. v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941).
284. Shell Oil Co. v. Moore, 382 Ill. 556, 48 N.E.2d 400 (1943).
285. Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904) (separate reservation of gravel held to indicate that sand was not included in general reservation of "minerals").
286. Highland v. Commonwealth, 400 Pa. 261, 161 A.2d 390 (1960).
287. Kinder v. LaSalle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923).

a conveyance may throw light upon the interpretation of a grant or reservation of minerals contained in the instrument of conveyance.[288] Such evidence is relevant in determining the interpretation adopted by the parties at the time of the conveyance.[289] For example, if certain substances are being removed and sold by the owner of the surface estate and the owner of the mineral estate knows of the surface owner's actions and does not complain, the mineral owner's acquiescence may be taken as evidence that he construed the grant or reservation of minerals as not including the substances removed and sold by the surface owner.[290] The conduct need not always be such as would constitute an admission against interest. For example, the fact that a grantor who reserved "all minerals" has received royalties upon clay has been held to be indicative of an intent to reserve gravel, which is similar to clay in that both are a conglomeration of minerals.[291]

Subsequent leases or conveyances, either by the owner of the mineral estate or by the owner of the surface estate, may indicate the interpretation placed upon the grant or reservation by one or both of the parties,[292] but leases or conveyances executed long after a grant or reservation of minerals are of little value in interpreting the grant or reservation.[293] Subsequent conveyances of other lands by the same grantor which use different words of grant or reservation are of little use in the construction of prior conveyances by the grantor.[294]

Articles of incorporation executed long prior to the date of a conveyance by a corporation can have no bearing upon the construction of a reservation of minerals contained in the conveyance.[295] Similar-

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288. United States v. 1,253.14 Acres of Land, 455 F.2d 1177 (10th Cir. 1972); Franklin Fluospar Co. v. Hosick, 239 Ky. 454, 39 S.W.2d 665 (1931); Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932).

289. United States v. 1,253.14 Acres of Land, 455 F.2d 1177 (10th Cir. 1972). *But see* Farrell v. Sayre, 129 Colo. 368, ——, 270 P.2d 190, 192-93 (1954): "The trial court was led afield and away from the original grant by the side transactions that followed. . . . [T]he rights of all parties involved are distinctly fixed by the original deed and the reservation therein."

290. Kinder v. LaSalle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923); Monan Coal Co. v. Riggs, 115 Ind. App. 236, 56 N.E.2d 672 (1944); Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942); Darvill v. Roper, 3 Drew. 294, 61 Eng. Rep. 915, 10 Morr. Min. Rep. 406 (Ch. 1855).

291. United States v. 1,253.14 Acres of Land, 455 F.2d 1177 (10th Cir. 1972). *Cf.* Farrell v. Sayre, 129 Colo. 368, 270 P.2d 190 (1954) (grantor held not to have reserved sand and gravel despite subsequent receipt of royalties on sand and gravel).

292. United States v. 1,253.14 Acres of Land, 455 F.2d 1177 (10th Cir. 1972); Winsett v. Watson, 206 S.W.2d 656 (Tex. Civ. App. 1927); Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292 86 A.L.R. 966 (1932). *See* Federal Gas, Oil & Coal Co. v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941).

293. *See* Panhandle Cooperative Royalty Co. v. Cunningham, 495 P.2d 108 (Okla. 1971).

294. Lovelace v. Southwest Petroleum Co., 267 F. 513 (6th Cir. 1920); Western Devel. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955) ("However, more careful draftsmanship in instruments subsequent to the ones in question can scarcely be regarded as an admission.").

295. Western Devel. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927). *But cf.* Praeletorian Diamond Oil Ass'n v. Garvey, 15 S.W.2d 698 (Tex. Civ. App. 1929).

ly, the fact that a corporate grantee of minerals is not authorized by its articles of incorporation to acquire oil and gas is immaterial in construing a grant to the corporation.[296] On the other hand, where minerals are granted to a corporation in exchange for stock, the fact that the articles of incorporation authorized the corporation to develop stone has been held to shed some light upon whether sandstone was intended to be included in the grant.[297]

7. *Acts of Others*

While the manner in which minerals are assessed by the local taxing authorities is not controlling as against either party to a grant or reservation of minerals, it may properly be looked to as indicative of the construction which the parties themselves placed upon their respective holdings.[298]

VI. PARTICULAR SUBSTANCES

The following discussion is not intended to be a detailed analysis of the treatment accorded to particular substances which have been asserted to be minerals, but is designed merely to serve as an aid in locating the authorities dealing with those substances.

A. METALLIC OR METALLIFEROUS MINERALS

There is rarely any question raised as to whether metallic or metalliferous substances are minerals, and some early decisions held or at least assumed that only metallic or metalliferous substances could be included within the meaning of the term "minerals."[299] When illustrating an opinion with an example or hypothetical situation regarding the interpretation of the term "minerals," the courts of course select for that purpose substances which are undeniably minerals. The minerals so selected are invariably metallic or metalliferous minerals, such as gold.[300] Nevertheless, the Oklahoma courts have stringently applied the rule of *ejusdem generis* to exclude all metallic and metalliferous minerals from grants or reservations of "all oil, gas, and other minerals."[301]

1. *Bauxite*

Bauxite has been said to be a mineral,[302] but it has been held not

296. Shell Oil Co. v. Dye, 135 F.2d 365 (7th Cir. 1943); Hurley v. West Kentucky Coal Co., 204 Ky. 96, 171 S.W.2d 15 (1943).
297. Kalberer v. Grassham, 282 Ky. 430, 138 S.W.2d 940 (1940).
298. Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932).
299. *See supra* notes 89-93, and text accompanying.
300. *See supra* notes 109 & 271, and text accompanying.
301. Allen v. Farmers Union Co-operative Royalty Co., 538 P.2d 204 (Okla. 1975); Panhandle Cooperative Royalty Co. v. Cunningham, 495 P.2d 108 (Okla. 1971).
302. Sovereign Camp Woodmen of the World v. Arthur, 144 Ark. 114, 222 S.W. 729

to be within the scope of a reservation of "mineral deposits" where it would be removed by surface mining methods.[303]

2. *Iron*

Iron ore is generally considered to be a mineral.[304] In Texas, however, iron ore has been held not to be a mineral where it must be removed by surface mining methods.[305]

3. *Rutile and Similar Minerals*

Metallic minerals such as rutile, ilmenite, monazite, zircon, and titanium have been held to be included in a grant of the right to explore for "oil, gas and other minerals."[306]

4. *Uranium*

As a general rule, uranium would be included in a grant or reservation of "minerals." Thus, uranium has been held to be included in a reservation of "all mineral rights."[307] The uranium boom of the 1950's found many prospectors searching for uranium in areas thought to be valuable for oil and gas or covered by oil and gas leases. A question naturally arose as to whether a grant or reservation of "all oil, gas and other minerals" includes uranium.[308] The cases generally hold that uranium is included in such a grant or reservation.[309] A North Dakota statute provides that no conveyance of mineral rights or royalties separate from the surface rights shall be construed to grant or convey to the grantee any interest in and to any uranium unless the intent to convey such interest is specifically and separately set forth in the instrument of conveyance.[310]

5. *Mercury*

In Arkansas, cinnabar or mercury would not be included in a reservation of "all minerals, coal, oil and gas" if those minerals were not known to exist in the area embraced by the deed at the time of execution of the deed.[311]

(1920).

303. Carson v. Missouri Pac. Ry., 212 Ark. 963, 209 S.W.2d 97, 1 A.L.R.2d 784 (1948).

304. Marvel v. Merritt, 116 U.S. 11 (1885).

305. Acker v. Guinn, 464 S.W.2d 348 (Tex. 1971). One can but wonder how such a decision would have been received had it been handed down by the Minnesota court.

306. Collins v. Coastal Petroleum Co., 118 So. 2d 796 (Fla. App. 1960).

307. Patterson v. Wilcox, 11 Utah 2d 264, 358 P.2d 88 (1961).

308. *See* Lange, *Does The Phrase 'Oil, Gas and Other Minerals' in a Mineral Lease Include Uranium?*, 2 NAT. RES. LAW. 360 (1969).

309. New Mexico and Arizona Land Co. v. Elkins, 137 F. Supp. 767 (D.N.M. 1956); Cain v. Neuman, 316 S.W.2d 915 (Tex. Civ. App. 1958). Uranium is not included in a reservation of "oil, gas and kindred minerals." Dawson v. Meike, 508 P.2d 15 (Wyo. 1973).

310. N.D. CENT. CODE § 47-10-24 (Supp. 1977).

311. Mining Corp. of Arkansas v. International Paper Co., 324 F. Supp. 705 (W.D. Ark.

B. NONMETALLIC AND NONMETALLIFEROUS MINERALS IN GENERAL

The question of whether the word "mineral" is limited to metallic or metalliferous minerals only has been discussed in an earlier part of this article.[312] Soon after the enactment of the Mineral Location Law of 1872[313] it was concluded that diamond was a mineral subject to location under the mining laws,[314] and thereafter a number of decisions of the Commission of the General Land Office held that nonmetallic minerals were subject to location under the mining laws. As a general rule, therefore, the word "minerals," whether used in public land statutes or in private conveyances, includes not only metallic and metalliferous minerals but also nonmetallic and nonmetalliferous minerals.

C. PETROLEUM

Petroleum is a liquid consisting of a mixture of several hydrocarbon compounds, and is therefore not considered by mineralogists to be a mineral.[315] Economic geologists, however, classify petroleum as a mineral fuel,[316] and in a broad sense oil and gas, as petroleum is usually referred to, are considered to be minerals.[317]

1971).

312. *See supra* notes 89-93, and text accompanying.

313. 30 U.S.C. §§ 21-54 (1970).

314. 14 OP. ATT'Y GEN. 115 (1872).

315. E. DANA, A TEXTBOOK OF MINERALOGY 1 (4th ed. 1932). *See also id.* at 777.

316. A. BATEMAN, ECONOMIC MINERAL DEPOSITS 652 (2d ed. 1950).

317. Crain v. Pure Oil Co., 25 F.2d 824 (8th Cir. 1928); *In re* Great Western Petroleum Corp., 16 F. Supp. 247 (S.D. Cal. 1936); Carter Oil Co. v. Blair, 256 Ala. 650, 57 So. 2d 64 (1951); Osborn v. Arkansas Territorial Oil & Gas Co., 103 Ark. 175, 146 S.W. 122 (1912) (natural gas); Isom v. Rex Crude Oil Co., 147 Cal. 659, 82 P. 317 (1905); Standard Pipe & Supply Co. v. Red Rocfl Co., 57 Cal. App. 2d 897, 135 P.2d 659 (1943); Cornwell v. Buck & Stoddard, 28 Cal. App. 2d 333, 82 P.2d 516 (1938); Failoni v. Chicago & N.W. Ry., 30 Ill. 2d 258, 195 N.E.2d 619 (1964); Murgarger v. Franklin, 18 Ill. 2d 344, 163 N.E.2d 818 (1960); Shell Oil Co. v. Moore, 382 Ill. 556, 48 N.E.2d 400 (1943); Jilek v. Chicago, Wilmington & Franklin Coal Co., 382 Ill. 241, 47 N.E.2d 96, 146 A.L.R. 871 (1943); Ohio Oil Co. v. Daughtee, 240 Ill. 361, 88 N.E. 818, 36 L.R.A. (N.S.) 1108 (1909); People *ex rel.* Carrell v. Bell, 237 Ill. 332, 86 N.E. 593, 19 L.R.A. (N.S.) 746, 15 Ann. Cas. 511 (1908); Poe v. Ulrey, 233 Ill. 56, 84 N.E. 46 (1908); Watford Oil & Gas Co. v. Shipman, 233 Ill. 9, 84 N.E. 53, 122 Am. St. Rep. 144 (1908); Jones v. Johnson, 16 Ill. App. 3d 996, 307 N.E.2d 222 (1974); Manufacturers' Gas & Oil Co. v. Indiana Natural Gas & Oil Co., 155 Ind. 461, 57 N.E. 912, 50 L.R.A. 768 (1900) (natural gas); People's Gas Co. v. Tyner, 131 Ind. 277, 31 N.E. 59, 16 L.R.A. 443, 31 Am. St. Rep. 433 (1892); Shaffer v. Kansas Farmers Union Royalty Co., 146 Kan. 84, 69 P.2d 4 (1937); Lanyon Zinc Co. v. Freeman, 68 Kan. 691, 75 P. 995, 1 Ann. Cas. 403 (1904); Bigge v. Tallent, 539 S.W.2d 288 (Ky. 1976); Sellars v. Ohio Valley Trust Co., 248 S.W.2d 397 (Ky. 1952); Beckett-Iseman Oil Co. v. Backer, 165 Ky. 818, 178 S.W. 1084 (1915); McKinney's Heirs v. Central Kentucky Natural Gas Co., 134 Ky. 239, 120 S.W. 314, 20 Ann. Cas. 934 (1909); Rice Oil Co. v. Toole County, 86 Mont. 427, 284 P. 145 (1930); Mid-Northern Oil Co. v. Walker, 65 Mont. 414, 211 P. 353 (1922); Wagner v. Mallory, 169 N.Y. 501, 62 N.E. 584 (1902); Detlor v. Holland, 57 Ohio 492, 49 N.E. 690, 40 L.R.A. 266 (1898); Kelley v. Ohio Oil Co., 57 Ohio 317, 49 N.E. 399, 39 L.R.A. 765, 63 Am. St. Rep. 721 (1897); Fourth & Central Trust Co. v. Woodley, 31 Ohio App. 259, 165 N.E. 742 (1928); Cuff v. Koslosky, 165 Okla. 135, 25 P.2d 290 (1933); City of Erie v. Public Service Comm'n, 278 Pa. 512, 123 A. 471 (1924); Hamilton v. Foster, 272 Pa. 95, 116 A. 50 (1922); McIntosh v. Ropp, 233 Pa. 497, 82 A. 949 (1912); Jennings v. Bloomfield, 199 Pa. 638, 49 A. 135 (1901); Ridgway Light & Heat Co. v. Elk County, 191 Pa. 465, 43 A. 323 (1899) (gas); Blakley v. Marshall, 174 Pa. 425, 34 A. 564 (1896); Westmoreland &

Petroleum is considered to be a mineral under the United States public land laws.[318] Prior to the enactment of the Mineral Leasing Act of 1920,[319] and even prior to the enactment of the Oil Placer Act of 1897,[320] petroleum was considered to be a mineral locatable under the United States mining laws.[321]

Except in Pennsylvania, oil and gas are usually held to be included in a grant or reservation of "minerals."[322] The Pennsylvania courts have established as a rule of property the *Dunham* rule which provides that if, in connection with the conveyance of land, there is a grant or reservation of "minerals" without any specific mention of oil or natural gas, a rebuttable presumption arises that the word "minerals" was not intended by the parties to include oil or natural gas. To rebut this presumption there must be clear and convincing evidence that the parties to the conveyance intended to include oil

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Cambria Nat. Gas Co. v. DeWitt, 130 Pa. 235, 18 A. 724 (1889)(gas); Stoughton's Appeal, 88 Pa. 198 (1878); Funk v. Haldeman, 53 Pa. 229, 7 Morr. Min. Rep. 203 (1866); Thompson v. Noble, 3 Pitt. 201 (Ct. C.P. Erie Co. 1970); Schrieber v. National Transit Co., 21 Pa. Co. 657 (Ct. C.P. Venango Co. 1898); Southland Royalty Co. v. Pan American Petroleum Corp., 378 S.W.2d 50 (Tex. 1964); Stephens County v. Mid-Kansas Oil & Gas Co., 113 Tex. 160, 254 S.W. 290, 29 A.L.R. 566 (1923); Swayne v. Lone Acre Oil Co., 98 Tex. 597, 86 S.W. 740, 69 L.R.A. 986, 8 Ann. Cas. 1117 (1905); Gulf Production Co. v. Warren, 99 S.W.2d 616 (Tex. Civ. App. 1939); Kadane v. Clark, 99 S.W.2d 448 (Tex. Civ. App. 1939); Crawford v. Magnolia Petroleum Co., 62 S.W.2d 264 (Tex. Civ. App. 1933)(gas); Ferguson v. Steen, 293 S.W. 318 (Tex. Civ. App. 1927); American Refining Co. v. Tidal Western Oil Corp., 264 S.W. 355 (Tex. Civ. App. 1924); Carothers v. Mills, 233 S.W. 155 (Tex. Civ. App. 1921); Texas Pac. Coal & Oil Co. v. Howard, 212 S.W. 735 (Tex. Civ. App. 1919); Southern Oil Co. v. Colequitt, 28 Tex. Civ. App. 292, 69 S.W. 169 (1902); Preston v. White, 57 W. Va. 278, 50 S.E. 236 (1905); Williamson v. Jones, 39 W. Va. 231, 19 S.E. 436 (1894). *See* United States v. Buffalo Natural Gas Fuel Co., 172 U.S. 339 (1899); Texas Pacific Coal & Oil Co. v. State, 125 Mont. 258, 234 P.2d 452 (1951); State *ex rel.* Rausch v. Amerada Petroleum Corp., 78 N.D. 247, 49 N.W.2d 14 (1951); Texas Co. v. Daugherty, 107 Tex. 226, 176 S.W. 717, L.R.A. 1917F 489 (1915); Caulk v. Miller, 18 S.W.2d 195 (Tex. Civ. App. 1929). *Contra,* J. M. Guffey Petroleum Co. v. Murrel, 127 La. 466, 53 So. 705 (1910).

318. Burke v. Southern Pac. Ry., 234 U.S. 669 (1914); Skeen v. Lunch, 48 F.2d 1044 (10th Cir. 1931); Roselle v. Harn & Campbell, 60 I.D. 167 (1948); Chino Land & Water Co. v. Harmaker, 39 Cal. App. 274, 178 P. 738 (1918).

319. 30 U.S.C. §§ 181-287 (1970 & Supp. V 1975).

320. 29 Stat. 526 (1897).

321. McQuiddy v. California, 29 L.D. 181 (1899); Union Oil Co., 25 L.D. 351 (1897), *on rehearing, reversing* Union Oil Co., 23 L.D. 222 (1896); Comm'r Burdett to Surveyor-General, San Francisco, Cal., Jan. 30, 1875, *in* H. COPP, U.S. MINERAL LANDS 160 (2d ed. 1882).

322. Mothner v. Ozark Real Estate Co., 300 F.2d 617 (8th Cir. 1962); Rowe v. Chesapeake Mineral Co., 156 F.2d 752 (6th Cir. 1946); Shell Oil Co. v. Dye, 135 F.2d 365 (7th Cir. 1943); Stowers v. Huntington Devel. & Gas Co., 72 F.2d 969 (4th Cir. 1934); Dingess v. Huntington Devel. & Gas Co., 271 F. 864 (4th Cir. 1921); Singleton v. Missouri Pac. Ry., 205 F. Supp. 113 (E.D. Ark. 1962); Stewart Oil Co. v. Sohio Petroleum Co., 202 F. Supp. 952 (E.D. Ill. 1962); Schreier v. Chicago & N. Ry., 96 Ill. App. 2d 425, 239 N.E.2d 281 (1968); Sellars v. Ohio Valley Trust Co., 248 S.W.2d 897 (Ky. 1952); Hurley v. West Kentucky Coal Co., 294 Ky. 96, 171 S.W.2d 15 (1943); Federal Gas, Oil & Coal Co. v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941)(rehearing denied 1942); Sloan v. Kentcky-West Virginia Gas Co., 289 Ky. 623, 159 S.W.2d 993 (1942); Maynard v. McHenry, 271 Ky. 642, 113 S.W.2d 13 (1938); Kentucky-West Virginia Gas Co. v. Preece, 260 Ky. 601, 86 S.W.2d 163 (1935); Bolen v. Casebolt, 252 Ky. 17, 66 S.W.2d 19 (1933)(gas); Scott v. Laws, 185 Ky. 440, 151 S.W. 81, 13 A.L.R. 369 (1919); Weaver v. Richards, 156 Mich. 320, 120 N.W. 818 (1909); Bulger v. McCourt, 179 Neb. 316, 138 N.W.2d 18 (1965); Barker v. Campbell-Ratcliff Land Co., 64 Okla. 249, 167 P. 468 (1917); Gill v. Weston, 110 Pa. 312, 1 A. 921 (1885); Murray v. Allard, 100 Tenn. 100, 43 S.W. 355, 66 Am. St Rep. 740, 39 L.R.A. 249, 19 Morr. Min. Rep. 169 (1897); Anderson Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 136 S.W.2d 800, 127 A.L.R. 1217 (1940); Rio Bravo Oil Co v. McEntire, 128 Tex. 124, 95 S.W.2d 381, 96 S.W.2d 1110 (Tex. Comm. App. 1936);

or natural gas within the meaning of the word "minerals."[323] Outside of Pennsylvania, the cases holding that oil and gas are not included in a grant or reservation of minerals are usually based upon the particular language of the instrument in question or the circumstances of its execution.[324] In Indiana, an estate in oil and gas is an incorporeal hereditament, and for that reason a grant or reservation of minerals has been held to be ambiguous with respect to oil and gas.[325]

D. COAL AND SIMILAR SUBSTANCES

1. *Coal*

As in the case of petroleum, coal is a mixture of several hydrocarbon compounds and is therefore not considered by mineralogists to be a mineral.[326] It is classified as a mineral fuel by economic geologists.[327] Lands valuable for coal are mineral lands under the public land laws of the United States.[328]

Coal is generally considered to be a mineral.[329] In *Adams County v. Smith*,[330] the North Dakota court said as follows: We have found no cases holding that coal is not a mineral. Wherever the question has been considered the courts have construed the term "mineral" to include coal.[331] In several cases, however, coal has been held not to be included within the meaning of the term "minerals" as used

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Elliott v. Nelson, 251 S.W. 501 (Tex. Comm. App. 1923); Luse v. Farmer, 221 S.W. 1031 (Tex. Civ. App. 1920); Luse v. Boatman, 217 S.W. 1096 (Tex. Civ. App. 1919); Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955); Warren v. Clinchfield Coal Co., 166 Va. 524, 186 S.E. 20 (1936); Burdette v. Bruen, 118 W. Va. 624, 191 S.E. 360 (1937); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927); Norman v. Lewis, 100 W. Va. 432, 130 S.E. 913 (1926); Sult v. Hochstetter Oil Co., 63 W. Va. 317, 61 S.E. 307 (1908). *See* Annot., 37 A.L.R.2d 1440 (1954).

323. New York Nat. Gas Corp. v. Swan-Finch Gas Devel. Corp., 278 F.2d 577 (3rd Cir. 1960); Highland v. Commonwealth, 400 Pa. 261, 161 A.2d 390 (1960); Bundy v. Myers, 372 Pa. 583, 94 A.2d 724 (1953)(natural gas); Preston v. South Penn Oil Co., 238 Pa. 301, 86 A. 203 (1913); Silver v. Bush, 213 Pa. 195, 62 A. 832 (1906); Dunham v. Kirkpatrick, 101 Pa. 36, 47 Am. Rep. 696 (1882).

324. Western Coal & Min. Co. v. Middleton, 362 F.2d 48 (8th Cir. 1966); Kentucky Coke Co. v. Keystone Gas Co., 296 F. 320 (6th Cir. 1924); Stegall v. Bugh, 228 Ark. 632, 310 S.W.2d 251 (1958); Brizzolara v. Powell, 214 Ark. 870, 218 S.W.2d 728 (1949); Missouri Pac. Ry. v. Furqueron, 210 Ark. 460, 196 S.W.2d 588 (1946); Missouri Pac. Ry. v. Strohacker, 202 Ark. 645, 152 S.W.2d 557 (1941); Davis v. Plunkett, 187 Kan. 121, 353 P.2d 514 (1960); Rice v. Blanton, 232 Ky. 195, 22 S.W.2d 580 (1929); Huie Hodge Lumber Co. v. Railroad Lands Co., 151 La. 197, 91 So. 676 (1922); Detlor v. Holland, 57 Ohio 492, 49 N.E. 690, 40 L.R.A. 266 (1898); Gordon v. Carter Oil Co., 19 Ohio App. 319 (1924); Right of Way Oil Co. v. Gladys City Oil Co., 106 Tex. 94, 157 S.W. 737 (1913); Patterson v. Wilcox, 11 Utah 2d 264, 358 P.2d 88 (1961); Horse Creek Land & Min. Co. v. Midkiff, 81 W. Va. 616, 95 S.E. 26 (1918). A reservation of "oil" does not include natural gas. Murphy v. Van Voorhis, 94 W. Va. 475, 119 S.E. 297 (1923).

325. Monon Coal Co. v. Riggs, 115 Ind. App. 236, 56 N.E. 672 (1944).

326. E. DANA, A TEXTBOOK OF MINERALOGY 775-78 (4th ed. 1932).

327. A. BATEMAN, ECONOMIC MINERAL DEPOSITS 634 (2d ed. 1950).

328. Mullan v. United States, 118 U.S. 271 (1886).

329. Henry v. Lowe, 73 Mo. 96 (1880); Abbey v. State, 202 N.W.2d 844 (N.D. 1972); Adams County v. Smith, 74 N.D. 621, 23 N.W.2d 873 (1946); Griffin v. Fellows, *81 (32 P. F. Smith) Pa. 114 (1873).

330. 74 N.D. 621, 23 N.W.2d 873 (1946).

331. *Id.* at 624. 23 N.W.2d at 875.

in the particular instrument. In Oklahoma, the rule of *ejusdem generis* has been applied to exclude coal from a reservation of "oil, gas and other minerals,"[332] and the rule has been applied in Kansas with like results.[333] The same result has been reached on similar reasoning in Indiana.[334] In Texas, although a reservation of "all oil, gas and other minerals" would ordinarily include coal and lignite, under the rule of *Acker v. Guinn*[335] it has been held not to include coal or lignite.[336] Coal has been held not to be included in an agreement relating to "minerals" where, at the time the agreement was entered into, the coal on the lands in question was of no appreciable value for lack of an outlet to the market.[337]

A North Dakota statute provides that no conveyance of mineral rights or royalties separate from the surface rights shall be construed to grant or convey to the grantee any interest in and to any coal unless the intent to convey such interest is specifically and separately set forth in the instrument of conveyance.[338]

2. *Lignite*

Lignite has been held not to be a mineral under an oil, gas, and minerals lease.[339] The Texas case on lignite has been mentioned above.[340]

3. *Peat*

Neither peat or peat moss is a mineral subject to location under the United States mining laws.[341] A Florida statute provides that the word "minerals" used in any deed, lease, or other contract in writing after the date of the statute shall not include peat unless expressly provided therein.[342]

E. ROCK AND STONE

The word "mineral," in its ordinary and common meaning, is a comprehensive term including every description of stone and rock deposit.[343]

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332. Sloan v. Peabody Coal Co., 547 F.2d 115 (10th Cir. 1977).
333. Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973).
334. Besing v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1137 (1973).
335. 464 S.W.2d 348 (Tex. 1971).
336. Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).
337. White v. Sayres, 101 Va. 821, 45 S.E. 747 (1903).
338. N.D. CENT. CODE § 47-10-24 (Supp. 1977).
339. River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976).
340. *See supra* note 336, and text accompanying.
341. United States v. Toole, 224 F. Supp. 440 (D. Mont. 1963).
342. FLA. STAT. ANN. § 689.20 (West 1969).
343. Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966

1. *Rock*

Common rock has been held not to be a mineral under the public land laws of the United States.[344] On the other hand, trap rock has been held to be a mineral subject to location under the United States mining laws.[345] Rock has been held not to be included in a grant of minerals,[346] but silicated rock used in the manufacture of cement has been held to be a mineral.[347]

2. *Stone*

Even prior to the enactment of the Building Stone Law of 1892[348] building stone was held to be a mineral locatable under the United States mining laws.[349] Stone has been held to be a mineral.[350]

3. *Limestone*

Lands valuable for limestone are mineral lands under the public land laws of the United States.[351] A pure form of recrystallized limestone, valuable as a flux in smelting, for use in sugar factories for clarifying sugar, and for making portland cement and white plaster has been held to be a mineral within the meaning of the United States public land laws.[352] Prior to the enactment of the Common Varieties Act,[353] it was held that limestone was a mineral subject to location under the United States mining laws.[354]

The word "minerals" as used in a private conveyance does not ordinarily include limestone,[355] particularly if the limestone is used

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(1932). *See* Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955); Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 895 (1927).

344. State *ex rel.* State Hwy. Comm'n v. Trujillo, 82 N.M. 694, 487 P.2d 122 (1971).

345. Stephen E. Day, Jr., 50 L.D. 489 (1924).

346. Steinman Devel. Co. v. W. M. Ritter Lumber Co., 290 F. 832 (W.D. Va. 1922), *aff'd*, 290 F. 841 (4th Cir. 1923); Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973); Winsett v. Watson, 206 S.W.2d 656 (Tex. Civ. App. 1947).

347. State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907).

348. 30 U.S.C. § 161 (1970).

349. VanDoren v. Plested, 16 L.D. 508 (1893); McGlenn v. Wienbroeer, 15 L.D. 370 (1892); H. P. Bennett, Jr., 3 L.D. 116 (1884); Freezer v. Sweeney, 8 Mont. 508, 21 P. 20 (1889); Johnston v. Harrington, 5 Wash. 78, 31 P. 316 (1982) ("That stone is a mineral will hardly be disputed.") *Contra*, Conlin v. Kelly, 12 L.D. 1 (1891).

350. Griffin v. Fellows, *81 (32 P. F. Smith) Pa. 114 (1873); Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 300, 164 S.E. 292, 86 A.L.R. 966 (1932).

351. Morril v. Northern Pac. Ry., 30 L.D. 475 (1901). *Contra*, Southern Pac. v. Kaweah Limestone Ledge, July 15, 1880, *in* H. COPP, U.S. MINERAL LANDS 297 (1881).

352. Dunbar Lime Co. v. Utah-Idaho Sugar Co., 17 F.2d 351 (8th Cir. 1926).

353. 30 U.S.C. § 611 (1970).

354. Vivia Hemphill, 54 I.D. 80 (1932); Shepherd v. Bird, 17 L.D. 82 (1893); Comm'r Burdett to H. C. Rolfe, June 28, 1875, *in* H. COPP, U.S. MINERAL LANDS 176 (2d ed. 1882). *Contra*, as to limestone valuable only for road building purposes: Gray Trust Co., *on rehearing*, 4 L.D. 18 (1919); Hughes v. Florida, 42 L.D. 401 (1913) (coquina or shell rock); Holman v. Utah, 41 L.D. 314 (1912). *Contra*, Wheeler v. Smith, 5 Wash. 704, 32 P. 784 (1893).

355. Little v. Carter, 408 S.W.2d 207 (Ky. 1966); Rudd v. Hayden, 265 Ky. 495, 97 S.W.2d 35 (1936); Eldridge v. Edmondson, 252 S.W.2d 605 (Tex. Civ. App. 1952).

only for building purposes.[356] But if the limestone is close enough to a market to have value, it may be included in a grant or reservation of minerals.[357] Limestone has been held not to be included in a grant or reservation of minerals where it is on or near the surface,[358] but deposits of limestone found substantially beneath the surface of the ground have been held to be included in a mineral lease.[359] Limestone used in the manufacture of cement has been held to be a mineral.[360]

4. *Gypsum*

Lands valuable for gypsum are mineral lands under the public land laws of the United States.[361] Gypsum is a mineral subject to location under the United States mining laws.[362] Gypsum is usually considered to be a mineral,[363] but unedr the rule of *ejusdem generis* it has been held not to be included in a lease of "all of the oil, gas and other minerals"[364] or a reservation of gas, oil and mineral rights."[365]

5. *Caliche*

Caliche has been held not to be included in a reservation of "oil, gas and other minerals."[366] On the other hand, caliche has been said to be a mineral, but not a metalliferous mineral.[367]

6. *Marble*

Lands valuable for marble are mineral lands under the public

356. Holland v. Dolese Co., 540 P.2d 549 (Okla. 1975); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1944); Eldridge v. Edmondson, 252 S.W.2d 605 (Tex. Civ. App. 1952).
357. *See* Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904).
358. Kinder v. LaSalle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923); Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973); White v. Miller, 200 N.Y. 29, 92 N.E. 1065, 140 Am. St. Rep. 618 (1910); Brady v. Smith, 181 N.Y. 178, 73 N.E. 963, 106 Am. St. Rep. 531, 2 Ann. Cas. 636 (1905); French v. Lansing, 73 Misc. 80, 132 N.Y.S. 523 (1911); Campbell v. Tennessee Coal, Iron & Ry. Co., 150 Tenn. 423, 265 S.W. 674 (1924); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949); Atwood v. Rodman, 355 S.W.2d 206 (Tex. Civ. App. 1962); Eldridge v. Edmondson, 252 S.W.2d 605 (Tex. Civ. App. 1952); Beury v. Shelton, 151 W. Va. 28, 144 S.E. 629 (1928).
359. *See* Coastal Petroleum Co. v. Secretary of the Army, 315 F. Supp. 845 (S.D. Fla. 1970).
360. Staee *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907).
361. Phifer v. Heaton, 27 L.D. 57 (1898).
362. W. H. Hooper, 1 L.D. 560 (1881); Madison v. Octave Oil Co., 154 Cal. 768, 99 P. 176 (1908). *Contra*, Comm's Williamson to Z. T. Duvall, Dec. 15, 1880, *in* H. COPP, U.S. MINERAL LANDS 320 (1881).
363. White v. Miller, 200 N.Y. 29, 92 N.E. 1065, 140 Am. St. Rep. 618 (1910); French v. Lansing, 73 Misc. 80, 132 N.Y.S. 523 (1911); Nephi Plaster & Mfg. Co. v. Juab County, 33 Utah 114, 93 P. 53, 14 L.R.A. (N.S.) 1043 (1907). *See* Certain-Teed Products Corp. v. Conly, 54 Wyo. 79, 87 P.2d 21 (1939) (gypsite).
364. Cronkhite v. Falkenstein, 352 P.2d 395 (Okla. 1960). *See* Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973).
365. Keller v. Ely, 192 Kan. 698, 391 P.2d 132 (1964).
366. Atwood v. Rodman, 355 S.W.2d 206 (Tex. Civ. App. 1962).
367. Bd. of County Comm'rs of Roosevelt County v. Good, 44 N.M. 495, 105 P.2d 470 (1940).

land laws of the United States.[368] Marble has been held to be a mineral locatable under the United States mining laws.[369] It has been said that a reservation of minerals would include a vein of fine marble.[370]

7. *Shale*

Shale has been held to be included in a grant or reservation of minerals.[371] On the other hand, shale has been held not to be included in a grant or reservation of minerals.[372] Paintstone, described as being "a substance resembling in general appearance red snale" has been held to be a mineral.[373]

8. *Slate*

Lands valuable for slate are mineral lands under the public land laws of the United States.[374] Slate has been held to be a mineral locatable under the United States mining laws.[375] Slate has been held to be a mineral.[376]

9. *Sandstone*

Lands valuable for sandstone are mineral lands under the public lands laws of the United States.[377] A grant of "all the minerals of every kind and character" has been held to include sandstone.[378]

10. *Granite*

Lands valuable for granite are mineral lands under the public land laws of the United Statse.[379] Granite has been held not to be included in a grant or reservation of minerals,[380] but it has been said

368. Schrimpf v. Northern Pac. Ry., 29 L.D. 327 (1899); Pacific Coast Marble Co. v. Northern Pac. Ry., 25 L.D. 233 (1897).
369. Henderson v. Fulton, 35 L.D. 652 (1907); Pacific Coast Marble Co. v. Northern Pac. Ry., 25 L.D. 233 (1897); Comm'r Burdett to H. C. Rolfe, June 28, 1875, *in* H. COPP, U.S. MINERAL LANDS 176 (2d ed. 1882).
370. Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904). *But see* Deer Lake Co. v. Michigan Land & Iron Co., 89 Mich. 180, 50 N.W. 807 (1891).
371. Bibby v. Bunch, 176 Ala. 585, 58 So. 916 (1912); McCombs v. Stephenson, 154 Ala. 109, 44 So. 867 (1907).
372. Steinman Devel. Co. v. W. M. Ritter Lumber Co., 290 F. 832 (W.D. Va. 1922), *aff'd*, 290 F. 841 (4th Cir. 1923); Atwood v. Rodman, 355 S.W.2d 206 (Tex. Civ. App. 1962).
373. Hartwell v. Camman, 10 N.J. Eq. 129, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854).
374. Schrimpf v. Northern Pac. Ry., 29 L.D. 327 (1899).
375. Acting Comm'r Curtis to Stockton, California, Office, Oct. 23, 1874, *in* H. COPP, U.S. MINERAL LANDS 143 (2d ed. 1882).
376. McCombs v. Stephenson, 154 Ala. 109, 44 So. 867 (1907).
377. Beaudette v. Northern Pac. Ry., 29 L.D. 248 (1899); Hayden v. Jamison, *on review*, 26 L.D. 373 (1898); Beaudette v. Northern Pac. Ry., 29 L.D. 248 (1899).
378. Kalberer v. Grassham, 282 Ky. 430, 138 S.W.2d 940 (1940).
379. Northern Pac. Ry. v. Soderberg, 188 U.S. 526 (1903); Meiklejohn v. F. A. Hyde & Co., 42 L.D. 144 (1913).
380. Thomas v. Markham & Brown, Inc., 353 F. Supp. 498 (E.D. Ark. 1973) (pulaskite);

that if granite is close enough to a market to have value, it would be included in a reservation of minerals.[381]

F. SAND AND GRAVEL[382]

In the broadest sense, the word "minerals" includes sand and gravel.[383] A reservation of minerals contained in a grant by the United States will include sand and gravel,[384] and prior to the enactment of the Common Varieties Act,[385] sand and gravel were held to be minerals subject to location under the United States mining laws.[386]

Where sand and gravel comprise the surface of the land, a private grant or reservation of minerals in general terms will not include sand and gravel,[387] particularly where their removal would destroy the surface[388] and render it unfit for agricultural purposes.[389] As a general rule, therefore, sand and gravel are usually held not to be a mineral in private grants or reservations of minerals.[390] A Florida statute provides that the word "minerals" used in any deed, lease, or other contract in writing after the date of the statute shall

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Armstrong v. Lake Champlain Granite Co., 147 N.Y. 495, 42 N.E. 186, 49 Am. St. Rep. 683, 18 Morr. Min. Rep. 279 (1895).

381. Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904).

382. *See* Annot., 95 A.L.R.2d 843 (1964).

383. Bumpus v. United States, 325 F.2d 264 (10th Cir. 1963); La Rowe v. McGee, 171 Ga. 771, 156 S.E. 591 (1931) (sand); State Land Bd. v. State Dep't of Fish & Game, 17 Utah 2d 237, 408 P.2d 707 (1965); West Virginia Dep't of Highways v. Farmer, 228 S.E.2d 717 (W. Va. 1976). *See* Commonwealth v. Hipple, 7 Pa. Dist. 399 (1898). *Cf.* Cline v. Henry, 239 S.W.2d 205 (Tex. Civ. App. 1951) (execution of a deed for sand and gravel did not waive homestead, since the execution of an oil and gas lease does not waive the homestead and "sand and gravel in place are in the nature of a mineral substance such as coal, iron, gas and oil and should receive a like classification.").

384. United States v. Isbell Construction Co., 4 IBLA 205 (1972).

385. 30 U.S.C. § 611 (1970).

386. United States v. Schaub, 163 F. Supp. 875 (D. Alaska 1958); Loney v. Scott, 57 Ore. 378, 112 P. 172, 32 L.R.A. (N.S.) 466 (1910); Layman v. Ellis, 52 L.D. 714 (1929), *overruling* Zimmerman v. Brunson, 39 L.D. 310 (1910). *Contra*, Anchorage Sand & Gravel Co. v. Schubert, 114 F. Supp. 436 (D. Alaska 1953), *aff'd on other grounds sub nom* Superior Sand & Gravel Min. Co. v. Alaska, 224 F.2d 623 (9th Cir. 1955); United States v. Aitken, 25 Phil. 7 (1913) (gravel not locatable under Philippine mining law).

387. Farrell v. Sayre, 129 Colo. 368, 270 P.2d 190 (1954); Resler v. Rogers, 272 Minn. 502, 139 N.W.2d 379 (1965); Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947); West Virginia Dep't of Highways v. Farmer, 228 S.E.2d 717 (W. Va. 1975). *See* Winsett v. Watson, 206 S.W.2d 656 (Tex. Civ. App. 1947). *But see* United States *ex rel.* Tennessee Valley Authr. v. Harris, 115 F.2d 843 (5th Cir. 1940) (granting a condemnation award of $1.00 per acre for a gravel deposit "of little commercial value.").

388. Harper v. Talladega County, 279 Ala. 365, 185 So. 2d 388 (1966).

389. Bambauer v. Menjoulet, 214 Cal. App. 2d 871, 29 Cal. Rptr. 874, 95 A.L.R.2d 839 (1963); Kinder v. LaSalle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923); Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973); Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942); Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384 (1954).

390. Bumpus v. United States, 325 F.2d 264 (10th Cir. 1963); Steinman Development Co. v. W. M. Ritter Lumber Co., 290 F. 832 (W.D. Va. 1922), *aff'd*, 290 F. 841 (4th Cir. 1923); Harper v. Talladega County, 279 Ala. 365, 185 So. 2d 388 (1966); Salzseider v. Brunsdale, 94 N.W.2d 502 (N.D. 1959); State *ex rel.* Comm'rs of Land Office v. Hendrix, 196 Okla. 596, 167 P.2d 43 (1946); Beck v. Harvey, 196 Okla. 270, 164 P.2d 399 (1944); Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904); Shell Petroleum Corp. v. Liberty Gravel & Sand Co., 128 S.W.2d 471 (Tex. Civ. App. 1939); Praeletorian Diamond Oil Ass'n v. Garvey, 15 S.W.2d 698 (Tex. Civ. App. 1929). *See* Lillington Stone Co. v. Maxwell, 203 N.C. 151, 165 S.E. 351 (1932); Whittle v. Wolff, 249 Ore. 217, 437 P.2d 114 (1968).

not include sand unless expressly provided therein.[391] A North Dakota statute provides that no conveyance of mineral rights or royalties separate from the surface rights shall be construed to grant or convey to the grantee any interest in and to any gravel unless the intent to convey such interest is specifically and separately set forth in the instrument of conveyance.[392]

Sand suitable for making glass is a mineral subject to location under the United States mining laws.[393] Although there is no decision specifically so holding, the courts are agreed that sand valuable for making glass is included in a grant or reservation of minerals.[394]

G. CLAY[395]

Clay has been held to be a mineral subject to location under the United States mining laws.[396] Clay used for making brick is usually not considered to be included in a grant or reservation of minerals.[397] Similarly, clay used for highway construction is not a mineral within the commonly understood meaning of that term in a reservation of mineral rights.[398] Clay used in the manufacture of cement has been held to be a mineral.[399] It has been said that if near enough to a market to have a value, potter's or porcelain clay would be included in a reservation of minerals.[400] A Florida statute provides that the word "minerals" in any deed, lease, or other contract in writing after the date of the statute shall not include common clay unless expressly provided therein.[401] A North Dakota statute provides that no conveyance of mineral rights or royalties separate from the surface rights shall be construed to grant or convey to the grantee any

391. FLA. STAT. ANN. § 689.20 (West 1969).
392. N.D. CENT. CODE § 47-10-24 (Supp. 1977).
393. United States v. Kosanke Sand Corp., 80 I.D. 538 (1973). *But cf.* Florence D. Delaney, 17 L.D. 120 (1893).
394. Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949).
395. *See* Annot., 95 A.L.R.2d 843 (1964).
396. United States v. Barngrover, *on rehearing*, 57 I.D. 533 (1942) (clay valuable for making drilling mud); Fred B. Ortman, 52 L.D. 467 (1928) (colloidal clay valuable principally for filtering oils in process of refining); Alldritt v. Northern Pac. Ry., 25 L.D. 349 (1897) ("fire clay of a superior quality"); Dobbs Placer Mine, 1 L.D. 565 (1883) (fire clay); Comm'r Burdett to J. D. M. Crockwell, June 28, 1875, *in* H. COPP, U.S. MINERAL LANDS 176 (2d ed. 1882) (kaolin); Comm'r Drummond to G. Billings, July 10, 1873, *in* H. COPP, U.S. MINING DECISIONS 209 (1874) (fire clay). *See* Jose v. Houck, 171 F.2d 211 (9th Cir. 1968) (montmorillonite); Mesmer v. Geith, 22 F.2d 690 (S.D. Cal. 1927) (fire clay); Mills v. Royse, 25 Ariz. App. 36, 540 P.2d 767 (1975); Chittim v. Belle Fourche Bentonite Products Co., 60 Wyo. 235, 149 P.2d 142 (1944) (bentonite). *Contra*, as to common clay or brick clay: United States v. Peck, 29 IBLA 357, 84 I.D. 137 (1977); United States v. O'Callaghan, 79 I.D. 689 (1972); United States v. Gunn, 79 I.D. 588 (1972); Holman v. Utah, 41 L.D. 314 (1912); King v. Bradford, 31 L.D. 108 (1901); Dunluce Placer Mine, 6 L.D. 761 (1888). *See* United States v. Mattey, 67 I.D. 63 (1960).
397. Hans v. Great Bend Brick & Tile Co., 172 Kan. 478, 241 P.2d 475 (1952). *See* Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973).
398. Resler v. Rogers, 272 Minn. 502, 139 N.W.2d 379 (1965).
399. State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907) (referred to variously as "clay" and "silicated clay").
400. Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904).
401. FLA. STAT. ANN. § 689.20 (West 1969).

interest in and to any clay unless the intent to convey such interest is specifically and separately set forth in the instrument of conveyance.[402] Bentonite has been held to be a mineral.[403] Montmorillonite has been considered to be a mineral subject to location under the United States mining laws.[404]

H. EARTH AND SIMILAR SUBSTANCES

Earth is usually not considered to be a mineral.[405] A Florida statute provides that the word "minerals" in any deed, lease, or other contract in wiriting after the date of the statute shall not include humus, muck, or topsoil unless expressly provided therein.[406]

I. WATER

Lands containing sulfur springs,[407] hot springs,[408] or mineral springs[409] have been held not to be mineral lands under the United States public land laws. In 1961, the Solicitor of the Department of the Interior concluded that geothermal steam is not a mineral material.[410] However, in *United States v. Union Oil Co.*,[411] the ninth circuit said that the purpose of the Stockraising Homestead Act in reserving to the United States "all coal and other minerals" was to "retain government control of subsurface fuel resources, appropriate for purposes other than stock-raising or forage farming."[412] The court held that since "all the elements of a geothermal system—magma, porous rock strata, even water itself—may be classified as 'minerals,'" the words of the mineral reservation in the Stockraising Homestead Act "are capable of bearing a meaning that encompasses geothermal resources."[413]

In *Andrus v. Charlestone Stone Products Co.*,[414] the United

402. N.D. CENT. CODE § 47-10-24 (Supp. 1977).
403. Cole v. McDonald, 236 Miss. 168, 109 So. 2d 628 (1959); Chittim v. Belle Fourche Bentonite Products Co., 60 Wyo. 235, 149 P.2d 142 (1944) (locatable under United States mining laws).
404. Jose v. Houck, 171 F.2d 211 (9th Cir. 1949).
405. Steinman Development Co. v. W. M. Ritter Lumber Co., 290 F. 832 (W.D. Va. 1922), *aff'd*, 290 F. 841 (4th Cir. 1923). *See* United States v. Toole, 224 F. Supp. 440 (D. Mont. 1963); Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973) (dirt, argillaceous material). *See also* ILL. ANN. STAT. tit. 30, § 168 (Smith-Hurd Supp. 1977) (soil, sod, dirt, turf).
406. FLA. STAT. ANN. § 689.20 (West 1969).
407. Comm'r Wilson to Fairplay, Colo., Office, Aug. 25, 1869, *in* H. COPP, U.S. MINING DECISIONS 22 (1874).
408. Morrill v. Margaret Min. Co., 11 L.D. 563 (1890).
409. Pagosa Springs, 1 L.D. 562 (1882). *See* 43 C.F.R. § 3826.2-4 (1976).
410. OP. SOL., U.S. DEP'T OF INTERIOR, M-36625 (Aug. 28, 1961).
411. 549 F.2d 1271 (9th Cir. 1977).
412. 43 U.S.C. § 299 (1970).
413. *Accord*, Geothermal Kinetics v. Union Oil Co., ——Cal. App. 3d——, 141 Cal. Rptr. 879 (1977) (holding that by conveying "minerals" parties intended to convey "commercially valuable, underground, physical resources").
414. ——U.S.——, 46 U.S.L.W. 4561 (1978).

States Supreme Court held that water is not a mineral subject to location under the United States mining laws.

Although some courts have recognized that a broad general meaning of the word "mineral" would include water,[415] water is usually not considered to be included in a grant or reservation of minerals.[416]

In *Stephen Hays Estate, Inc. v. Togliatti*,[417] it was contended that water containing copper in solution is a mineral and, as such, title to the water was reserved by a deed which reserved "all minerals on or in the land conveyed." In holding that the mineralized water was not a mineral within the scope of the reservation, the court said as follows:

> No case is cited by plaintiff and we have been unable to find an adjudicated case holding that water is a mineral within the meaning of a reservation such as that contained in the deed. . . . The characteristics of water containing copper in solution are so unlike the characteristics of minerals that to say water is a mineral would be to extend the meaning of the word "mineral" beyond what is generally understood by that term.[418]

The court then said that, even if it be conceded that water containing copper is a mineral, the water in question was not within the reservation, inasmuch as it was not "on or in the land conveyed" but rather percolated into the property from mining operations further up the canyon. The court thus, by implication, declined to apply the rule of capture to mineralized waters. In holding that the water was not included within the mineral reservation, the court was careful to note that the decision did not apply to any water that might be encountered by the mineral owner in conducting mining operations for the extraction of reserved minerals.

A Colorado statute provides that a reference to minerals or mineral rights in an instrument executed prior to May 17, 1974, is pre-

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415. People's Gas Co. v. Tyner, 131 Ind. 277, 31 N.E. 59, 16 L.R.A. 443, 31 Am. St. Rep. 433 (1892); Goodloe v. City of Richmond, 272 Ky. 100, 113 S.W.2d 834 (1937); Erickson v. Crookston Waterworks, Power & Light Co., 100 Minn. 481, 111 N.W. 391, 9 L.R.A. (N.S.) 1250, 10 Ann. Cas. 843 (1907); Hathorn v. Natural Carbonic Gas Co., 194 N.Y. 326, 87 N.E. 504, 128 Am. St. Rep. 553, 23 L.R.A. (N.S.) 436, 16 Ann. Cas. 989 (1909) ("subterranean waters have always been treated as a mineral in the decisions relating to their use and enjoyment"); State Land Bd. v. State Dep't of Fish & Game; 17 Utah 2d 237, 408 P.2d 707 (1965). *Contra*, J. M. Guffey Petroleum Co. v. Murrel, 127 La. 466, 53 So. 705 (1910) (mineral waters).

416. Steinman Dev. Co. v. W. M. Ritter Lumber Co., 290 F. 832 (W.D. Pa. 1922), *aff'd*, 290 F. 841 (4th Cir. 1923); Mack Oil Co. v. Laurence, 389 P.2d 955 (Okla. 1964); Vogel v. Cobb, 193 Okla. 64, 141 P.2d 276 (1943); Sun Oil Co. v. Whitaker, 412 S.W.2d 680 (Tex. Civ. App. 1967), *aff'd*, 424 S.W.2d 216 (Tex. 1965); Fleming Foundation v. Texaco, Inc., 337 S.W.2d 846 (Tex. Civ App. 1960). *Cf.* ILL. ANN. STAT. tit. 30, § 168 (Smith-Hurd Supp. 1977).

417. 85 Utah 137, 38 P.2d 1066 (1934).

418. *Id.* at ——, 38 P.2d at 1068.

sumed not to include geothermal resources unless geothermal resources are specifically mentioned, and a reference to minerals or mineral rights in an instrument executed on or after May 17, 1974, does not include geothermal resources unless geothermal resources are specifically mentioned.[419]

J. MISCELLANEOUS

Chromate of iron,[420] diamonds,[421] borax,[422] salt,[423] carbonate of soda,[424] nitrate of soda,[425] sulfur,[426] alum,[427] asphalt,[428] gilsonite,[429] umber,[430] mica,[431] phosphate,[432] guano,[433] magnesite,[434] fluorspar,[435] and silica[436] have been held to be minerals. Novaculite, a very hard, fine grained siliceous rock of sedimentary origin used for producing whetstones, has been held to be a mineral.[437] Shell rock,[438] stalagtites, stalagmites, and other "natural curiosities,"[439] and remains of prehistoric animals[440] have been held not to be minerals.

VII. PARTICULAR LANGUAGE

A. GENERALLY

A grant or reservation of specifically named minerals, with no general words such as "and other minerals," cannot be construed to include minerals not named,[441] but where a grant or reservation of specifically named minerals is followed by general words such as

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419. COLO. REV. STAT. ANN. § 38-35-121 (Supp. 1976).
420. Gibson v. Tyson, 5 Watts 34, 13 Morr. Min. Rep. 72 (Pa. 1836).
421. Kentucky Diamond Min. & Developing Co. v. Kentucky Transvaal Diamond Co., 141 Ky. 97, 132 S.W. 397 (1910); 14 OP. ATTY. GEN. 115 (1872).
422. Comm'r Drummond to Los Angeles, Cal., office, Apr. 18, 1873, *in* H. COPP, U.S. MINING DECISIONS 194 (1974); Circular, July 15, 1973, *in* H. COPP, U.S. MINING DECISIONS 316 (1847).
423. State v. Parker, 61 Tex. 265 (1884).
424. Circular, July 15, 1873, *in* H. COPP, U.S. MINING DECISIONS 316 (1874).
425. *Id.*
426. *Id.*
427. *Id.*
428. *Id.*
429. Webb v. American Asphaltum Co., 157 F. 203 (8th Cir. 1907).
430. Comm'r Burdett to Wm. Clayton, Jan. 30, 1875, *in* H. COPP, U.S. MINERAL LANDS 161 (2d ed. 1882).
431. Comm'r Burdett to William A. Arnold, Dec. 3, 1875, *in* H. COPP, U.S. MINERAL LANDS 176 (2d ed. 1882).
432. Florida C. & P.R., 26 L.D. 600 (1898); Gary v. Todd, 18 L.D. 58 (1894).
433. OP. SOL., U.S. DEP'T OF INTERIOR, MINERAL CHARACTER OF BAT GUANO DEPOSITS ON PAPAGO INDIAN RESERVATION, 60 I.D. 45 (1947); Richter v. Utah, 27 L.D. 99 (1898).
434. State v. Northwest Magnesite Co., 28 Wash. 2d 1, 182 P.2d 643 (1947).
435. Franklin Fluorspar Co. v. Hosick, 239 Ky. 454, 39 S.W.2d 665 (1931).
436. People v. Silver, 16 Cal. 2d 714, 108 P.2d 4 (1940); State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907).
437. Dierke Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949).
438. Hughes v. Florida, 42 L.D. 401 (1913).
439. South Dakota Min. Co. v. McDonald, 30 L.D. 357 (1900). *But see* United States v. Bolinder, 83 I.D. 12 (1976) (geodes).
440. Earl Douglass, 44 L.D. 325 (1915).
441. Huie Hodge Lumber Co. v. Railroad Lands Co., 151 La. 197, 91 So. 676 (1922); Bruen v. Thaxton, 126 W. Va. 330, 28 N.E.2d 59 (1943).

"and other minerals," or "and minerals," the general words indicate an intent to include minerals other than those named.[442]

1. *"All"*

The word "all" as used in a grant or reservation of minerals may be used in two different senses. When the word "all" precedes the language of grant or reservation, it may represent a description of the quantum of the estate granted; *i. e.*, a grant of "all the minerals" may indicate that the entire mineral estate is being granted, as distinguished from a grant of an undivided interest in the minerals. Alternatively, the word "all" may be the expression of an intent that the grant be all inclusive, and that no substance legally cognizable as a mineral is to be excluded from the grant. Thus, in a reservation of "all minerals or magnesia," the word "all" has been held to indicate that the parties did not intend to restrict the reservation to magnesia only.[443]

Where the word "all" does not precede the language of grant or reservation, it cannot be taken as a measure of the quantum of the estate granted, but must be looked upon as an indication of the kind of minerals to be included. Some courts have accorded significance to the fact that an instrument uses the phrase "oil, gas, and *all*, other minerals,"[444] or some similar phrase,[445] rather than merely "oil, gas, and other minerals."[446] As the North Dakota court said: "No word is more inclusive than 'all' and it is difficult to see why, if the parties intended a restricted construction to be placed upon the reference to other minerals, they should use a word so completely unrestricted in its meaning.[447] Other courts accord no significance to the use of the word "all." For example, a Louisiana court has said as follows: "We find no real distrinction between the phrase 'all other minerals' and the phrases 'and other minerals' or 'all the mineral . . . rights.' "[448]

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442. Burdette v. Bruen, 118 W. Va. 624, 191 S.E. 360 (1937). *But see* Davis v. Plunkett, 187 Kan. 121, 353 P.2d 514 (1960) (lease granted for the purpose of mining "Volcanic Ash, and all other minerals or mineral derivatives" and granting the right to mine "Volcanic Ash, Gypsum, and other minerals or mineral derivatives" *held* limited to volcanic ash and gypsum).

443. Gibson v. Tyson, 5 Watts 34, 13 Morr. Min. Rep. 72 (Pa. 1836).

444. Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958); MacMaster v. Onstad, 86 N.W.2d 36 (N.D. 1957).

445. New Mexico & Arizona Land Co. v. Elkins, 137 F. Supp. 767 (D.N. Mex. 1956) ("all oil, gas and minerals"); Cain v. Neuman, 316 S.W.2d 915 (Tex. Civ. App. 1958) ("all of the oil, gas, coal and other minerals").

446. In Besing, v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1137 (1937), the court found a conveyance of "oil, gas and other minerals" to be ambiguous, suggesting as one interpretation "that by use of 'other minerals,' as opposed to 'all other minerals'," the grantor intended to convey some but not all other minerals.

447. MacMaster v. Onstad, 86 N.W.2d 36, 41 (N.D. 1957).

448. River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878, 882 (La. App. 1976).

2. *Punctuation*

If the word "minerals" is connected to (or separated from) the substances particularly named by a comma only, difficulties in interpretation arise. On the one hand, an exception of "minerals, sand, rock, or gravel heretofore conveyed" indicates that the parties did not consider that the term "minerals" included sand, rock, or gravel.[449] On the other hand, the substances particularly mentioned may be considered to have been placed in apposition to the word "minerals." Thus, in a reservation of "all minerals, coal, iron, etc.," the words "coal" and "iron" are a partial enumeration of minerals, and "etc." is used in the sense of "and the rest."[450] If no general term such as "etc." is used, the word "minerals" may be limited by the substances placed in apposition to it.[451] Thus, a reservation of "minerals, coal" has been limited to coal.[452] This interpretation is subject to the criticism that the word "minerals" is thereby rendered superfluous. The phrase "minerals, metals, iron, coal, or fire clay" has been interpreted to include limestone, rock, and clay.[453] In a proper case, a comma will be inserted.[454]

3. *"Or"*

If the word "minerals" is connected to the substances particularly named by the word "or," difficulties similar to those mentioned in the preceding paragraph may arise. For example, it has been contended that in a reservation of "all mineral or magnesia of any kind," the word "magnesia" is merely an explanation and restriction of the word "minerals." This contention was rejected on the ground that magnesia was not usually considered to be a mineral, and the words "or magnesia" were intended to include magnesia as an addition to "all mineral."[455]

4. *"Other Minerals"*[456]

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449. Finsett v. Watson, 206 S.W.2d 656 (Tex. Civ. App. 1947). *Cf.* Steinman Dev. Co. v. W. M. Ritter Lumber Co., 290 F. 832 (W.D. Va. 1922), *aff'd*, 290 F. 841 (4th Cir. 1923) (reservation of "all the coal, iron ore and other minerals and fine clay").

450. Norman v. Lewis, 100 W. Va. 432, 130 S.E. 913 (1926). *Accord*, Anderson Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 136 S.W.2d 800, 127 A.L.R. 1217 (1940) ("all Minerals Paint Rock").

451. Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942).

452. Horse Creek Land & Min. Co. v. Midkiff, 81 W. Va. 616, 95 S.E. 26 (1918).

453. State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907).

454. Berry v. Hiawatha Oil & Gas Co., 198 S.W.2d 497 (Ky. 1946); Hurley v. West Kentucky Coal Co., 294 Ky. 96, 171 S.W.2d 15 (1943) (grant of "coal minerals and mining rights" held to be equivalent to "coal, minerals and mining rights"); Franklin Fluorspar Co. v. Hosick, 239 Ky. 454, 39 S.W.2d 665 (1931) (reservation of "coal minerals and mining privileges" held to be equivalent to "coal, minerals and mining privileges"); Anderson & Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 136 S.W.2d 800, 127 A.L.R. 1217 (1940). *But see* Rice v. Blanton, 232 Ky. 195, 22 S.W.2d 580 (1929) (no comma inserted in phrase "all the coal minerals and mineral products").

455. Gibson v. Tyson, 5 Watts 34, 13 Morr. Min. Rep. 72 (Pa. 1836).

456. *See* Beck, *"And Other Minerals" as Interpreted by the North Dakota Supreme Court,"*

The phrase "other minerals" has been said to be equivalent to the phrase "all other minerals."[457] It necessarily means other minerals than those named, but it need not always have the same meaning throughout the instrument. For example, in a lease of "oil and gas potash or other minerals" where the royalty clause provides for royalties on "oil" and on "potash and other minerals," the phrase "other minerals" in the royalty clause includes gas.[458] A North Dakota statute provides that no lease of mineral rights shall be construed as passing any interest to any minerals except those specifically included and set forth by name in the lease, and that the use of the words "all other minerals" or similar words of an all-inclusive nature in any lease shall not be construed as leasing any minerals except those minerals specifically named in the lease and their compounds and by-products.[459] Another North Dakota statute provides that the use of the word "minerals" or the phrase "all other minerals" or similar words or phrases of an all-inclusive nature in any deed, grant, or conveyance in which all or any portion of the minerals are reserved and excepted shall be interpreted to mean only those minerals specifically named in the deed, grant, or conveyance and their compounds and by-products.[460]

5. *"Of Any Kind" and Similar Phrases*

The use of the phrase "of any kind" in a mineral grant or reservation tends to indicate, at the very least, that more than one particular mineral is intended to be included in the grant or reservation,[461] and it has been said that it is difficult to conceive of general language more comprehensive than that found in a grant of "all the minerals, metals, and mineral substances of every kind and character," especially in view of the final clause.[462] Nevertheless, the courts do not usually place any particular emphasis upon such language, treating the grant or reservation as though it were of "minerals" only.[463]

6. *"In, On, or Under"*

The courts generally appear to accord no particular significance

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52 N.D. L. REV. 633 (1976).

457. River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976). *See* Nance v. Donk Brothers Coal & Coke Co., 13 Ill. 2d 399, 151 N.E.2d (1958) ("all coal and other mineral" means "all coal and all other mineral"); Christman v. Emineth, 212 N.W.2d 543 (N.D. 1973) ("all oil, gas, and other minerals" is equivalent to "all oil, all gas and all other minerals").

458. Southland Royalty Co. v. Pan American Petroleum Corp., 378 S.W.2d 50 (Tex. 1964). *See also* Magnolia Petroleum Co. v. Connellee, 11 S.W.2d 158 (Tex. Comm. App. 1928).

459. N.D. CENT. CODE § 47-10-24 (Supp. 1977).

460. *Id.* § 47-10-25 (Supp. 1977).

461. Gibson v. Tyson, 5 Watts 34, 13 Morr. Min. Rep. 72 (Pa. 1836).

462. Lovelace v. Southwestern Petroleum Co., 267 F. 513 (6th Cir. 1920).

463. New York State Nat. Gas Corp. v. Swan-Finch Gas Devel. Corp., 278 F.2d 577

to such phrases as "in, on, or under the surface of said lands."[464] The preposition "on" has a broader meaning than "on the surface of." To say that gold or oil has been found on a tract of land may mean that it has been discovered on the surface, but usually discovery beneath the surface is meant.[465] Therefore, the fact that a reservation is of minerals "on" the land (rather than the more common "on, in, and under" the land) does not limit the reservation to those minerals that are on the surface.[466] Conversely, a reservation of minerals "in, on, and under the land" has been held not to be limited to minerals which can be removed by underground mining methods.[467]

7. *"Which May be Found"*

The phrase "which may be found" has been held to indicate an intent not to include minerals occurring on the surface of the ground and lying open to view.[468]

8. *Spelling*

Errors in spelling are unimportant in construing a grant or reservation of minerals.[469]

B. PARTICULAR LANGUAGE OF GRANT OR RESERVATION

In Appendix II there is set forth the particular language of a number of different grants or reservations of minerals, together with

(3rd Cir. 1960) ("all the coal, coal oil, fire clay and other minerals of whatever nature and character"); Dingess v. Huntington Dev. & Gas Co., 271 F. 864 (4th Cir. 1921) ("all the minerals, mineral substances and oils of every sort and description"); Kinder v. La Salle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923) ("oil and minerals of every description"); Kalberer v. Grassham, 282 Ky. 430, 138 S.W.2d 940 (1940) ("all the minerals of every kind and character"); Kentucky-West Virginia Gas Co. v. Preece, 260 Ky. 601, 86 S.W.2d 163 (1935) ("all coal, salt water, and minerals of every description"); Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384, (1954) ("all the minerals now owned by me of every kind and nature, both liquid and solid"); Highland v. Commonwealth, 400 Pa. 261, 161 A.2d 390 (1969) ("all the coal, coal oil, fire clay and other minerals of every kind and character"); Bundy v. Myers, 372 Pa. 583, 94 A.2d 724 (1953) ("oil, coal, fire clay and minerals of every kind and character"); Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947) ("all mines and wells of, and all minerals of whatsoever description"); Warren v. Clinchfield Coal Co., 166 Va. 524, 186 S.E. 20 (1936) ("all the coal and minerals of every description"); Beury v. Shelton, 151 Va. 28, 144 S.E. 629 (1928) ("all the metals and minerals of every kind and character whatsoever"); Weyerhauser Co. v. Burlington Northern, Inc., 15 Wash. App. 314, 549 P.2d 54 (1976) ("all minerals of any nature whatsoever").

464. Sloan v. Peabody Coal Co., 547 F.2d 115 (10th Cir. 1977). *But see* Stephen Hays Estate, Inc. v. Togliatti, 85 Utah 137, 38 P.2d 1066 (1934), discussed in text accompanying *supra* notes 417-18.

465. Anderson Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 139 S.W.2d 800, 127 A.L.R. 1217 (1940).

466. *Id.*

467. Rudd v. Hayden, 265 Ky. 495, 97 S.W.2d 35 (1936). *Contra*, Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).

468. Brady v. Smith, 181 N.Y. 178, 73 N.E. 963, 106 Am. St. Rep. 531, 2 Ann. Cas. 636 (1905).

469. Anderson Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 139 S.W.2d 800, 127 A.L.R. 1217 (1940).

an indication of those substances which have been held to be included in, or excluded from, the grant or reservation. This material is not intended to constitute an analysis of the language of any particular grant or reservation of minerals, but rather it is designed as an index whereby the decisions interpreting such language may be found. In using this material, it should always be kept in mind that, in any particular case, the ultimate decision as to whether the substance in question was held to be included in or excluded from the grant or reservation of minerals may have depended upon a number of factors other than the mere language of the grant or reservation itself.

VIII. CONCLUSIONS

The cases interpreting the word "minerals" constitute a chronicle of the continuing struggle between conveyancers and the courts.[470] At a time when it was uncertain whether a grant or reservation of "minerals" included oil and gas, prudent conveyancers began to use the phrase "oil, gas and other minerals" to make it absolutely certain that oil and gas were intended to be included. In some localities the word "minerals" became virtually synonymous with oil and gas, and it then became uncertain as to whether the word "minerals" included anything other than oil and gas.[471] In attempting to state, in some fashion acceptable to the courts, that the term "all minerals" meant "all minerals," conveyancers used such phrases as "all minerals of every kind" or "all minerals of every description." These attempts were singularly unsuccessful, for the all-inclusive language, referring as it did only to the term "all minerals," was deemed wholly inapplicable to substances determined not to be minerals. Naming the particular minerals to be included was attempted, leading to such unwieldy phrases as "all minerals such as coal, iron, silver, gold, copper, lead, bismuth, anitmony, zinc, or any other mineral of any marketable valve . . . ."[472] These efforts were successful where the mineral in question was one of those named, but the obvious care which the parties gave the drafting of such language presented the courts with ample opportunity to say "it is strange that in drawing the conveyance they did not use words which would have, without doubt, included [the mineral in question]."[473] Paradoxically, the most all-inclusive reservation appears to be a reserva-

470. Needless to say, title examiners are caught squarely in the middle of this struggle.
471. *See* Fleck, *Severed Mineral Interests*, 51 N.D. L. REV. 369, 372-75 (1974); "Early decisions were concerned with whether the term 'minerals' included oil and gas. . . . More important at the present time is the question of whether or not the grant of 'oil, gas and other minerals' includes coal."
472. McKinney's He'rs v. Central Kentucky Nat. Gas Co., 132 Ky. 239, 120 S.W. 314, 20 Ann. Cas. 934 (1909).
473. *Id.* (holding that natural gas was not included).

tion merely of "all minerals," unaccompanied by langugae purporting to explain or expand the meaning of that term or the rights implicit in such a reservation. This conclusion is well illustrated by the following language of the West Virginia court in *Bruen v. Thaxton*:[474]

> If, in 1854, neither Bruen nor Thaxton knew of the existence or commercial value of oil or gas, how could either have had them in mind when they consummated their sale and purchase? If they did know, why were they not mentioned, or covered by the general term 'mineral" or otherwise? We realize, of course, that a broad reservation of minerals would have included all minerals, whether their existence was or was not then known to either party to a deed or to a contract; but when a grantor makes a reservation of specific minerals, as in this case, is it not reasonable to assume that he had those special minerals in mind, and not minerals of whose existence and value he may have been wholly unaware?[475]

The struggle between conveyancers and the courts continues on new ground as the courts develop the technique of using the definition of the word "minerals" as a device by which environmental and social policies may be implemented. The conveyancers have the first move, and must exercise not only skill and judgment but a large measure of foresight. Nevertheless, the courts ultimately determine the meaning of the word "minerals," and all too often the only reliable rule appears to be that the word "minerals" means what the courts say it means.

474. 126 W. Va. 330, 28 S.E.2d 59 (1943).
475. *Id.* at.——, 28 S.E.2d at 68.

APPENDIX I: STATUTORY DEFINITIONS

I. ARIZONA

An Arizona statute dealing with the Department of Mineral Resources provides as follows: " 'Minerals' includes metals and minerals, exclusive of hydrocarbons."[1] A statute dealing with the Bureau of Geology and Mineral Technology provides as follows: " 'Minerals' means all metallic, nonmetallic and fuel minerals."[2] A statute dealing with the location of mineral claims on state lands provides as follows: "The term 'mineral' includes mineral compound and mineral aggregate."[3]

II. ARKANSAS

An Arkansas statute dealing with the rights of co-owners of mineral lands provides as follows: "The word 'mineral' as used herein shall include oil, gas, asphalt, coal, iron, zinc, lead, cinnabar, bauxite, and salt water whose naturally dissolved components (solutes) are used as a source of raw materials for bromine and other products derived therefrom in bromine production."[4]

III. CALIFORNIA

A California statute applicable to mines and mining generally provides as follows: " 'Minerals' means any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum."[5]

IV. COLORADO

The Colorado Mined Land Reclamation Act provides as follows:

> "Mineral" means an inanimate constituent of the earth in a solid, liquid, or gaseous state which, when extracted from the earrth, is usable in its natural form or is capable of conversion into a usable form as a metal, or a raw material compound, a chemical, an energy source, or a raw material for manufacturing or construction material. For the purposes of this article, this definition does not include surface or subsurface water, geothermal resources, or natural oil and gas together with other chemicals recovered therewith, but does include oil shale.[6]

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1. ARIZ. REV. STAT. ANN. § 27-101(4) (1976).
2. *Id.* § 27-150(4) (Supp. 1977).
3. *Id.* § 27-231(B) (1976).
4. ARK. STAT. ANN. § 52-201 (Supp. 1975).
5. 5 CAL. PUB. RES. CODE § 2005 (West Supp. 1977).
6. COLO. REV. STAT. ANN. § 34-32-103(7) (Supp. 1976).

V. GEORGIA

The Georgia Surface Mining Act of 1968 provides as follows: "Mineral means clay, stone, gravel, sand, phosphate, rock, metallic ore, and any other solid material or substance of commercial value found in natural deposits on or in the earth."[7]

VI. HAWAII

The Hawaii strip mining statute provides as follows:

> "Mineral" or "minerals" means any or all of the oil, gas, coal, phosphate, sodium, sulphur, iron, titanium, gold, silver, bauxite, bauxitic clay, diaspore, boehmite, laterite, gibbsite, alumina, all ores of aluminum and, without limitation thereon, all other mineral substances and ore deposits whether solid, gaseous, or liquid, in, on, or under any land; but does not include sand, rock, gravel, and other materials suitable for use and used in road construction.[8]

The Hawaii statute dealing with the reservation and disposition of government mineral rights provides as follows:

> "Minerals" means any or all of the oil, gas, coal, phosphate, sodium, sulphur, iron, titanium, gold, silver, bauxite, bauxitic clay, diaspore, boehmite, laterite, gibbsite, alumina, all ore of aluminum and, without limitation thereon, all other mineral substances and ore deposits whether solid, gaseous, or liquid, including all geothermal resources in, on, or under any land, fast or submerged; but does not include sand, rock, gravel, and other materials suitable for use and used in general construction.[9]

VII. IDAHO

An Idaho statute relating to mineral rights in state lands provides as follows:

> The terms "mineral lands," "mineral," "mineral deposits," "deposit," and "mineral right," as used in this chapter, and amendments thereto shall be construed to mean and include all coal, oil, oil shale, gas, phosphate, sodium, asbestos, gold, silver, lead, zinc, copper, antimony and all other mineral lands, minerals or deposits of minerals of whatsoever kind or character.[10]

VIII. ILLINOIS

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7. GA. CODE ANN. § 43-1403(b) (1974).
8. HAW. REV. STAT. § 181-1 (1968).
9. *Id.* § 182-1(1) (Supp. 1975).
10. IDAHO CODE ANN. § 47-701 (1977).

The Illinois Mines Inspection Act provides as follows:

> The term "mineral" when used in this Act shall mean whatever is recognized by the standard authorities as mineral, whether metalliferous or non-metalliferous but shall not be held to embrace or include silica, granite, marble, salt, sand, gravel, clay, rock, coal, lignite, gas, oil or any substance extracted in solution or in the molten state through bore holes.[11]

IV. MICHIGAN

The Kammer Recreational Land Trust Fund Act of 1976 provides as follows: " 'Mineral' means an inorganic substance that can be extracted from the earth, except for oil or gas, and includes rock, metal ores, coal, and mineral water."[12]

The Michigan mined land reclamation act provides as follows: " 'Mineral' means coal, gypsum, stone, metallic ore or material mined for its metallic content and other similar solid material or substance to be excavated from natural deposits on or in the earth for commercial, industrial or construction uses. It does not include clay, gravel, marble, peat, or sand."[13]

A statute dealing with the rights of co-owners of mineral property provides as follows: " 'Mineral'—the term mineral, when employed in a conveyance is understood to include every inorganic substance that can be extracted from the earth for profit whether it be solid, as rock, fire clay, the various metals and coal, or fluid, as mineral waters except oil and gas."[14]

X. MISSISSIPPI

A Mississippi statute dealing with the ad valorem taxation of nonproducing gas, oil, and mineral interests provides as follows:

> Whenever the term "oil, gas and other minerals" is used in sections 27-31-71 to 27-31-87, the same shall include oil, gas petroleum, hydro-carbons, distillate, condensate, casinghead gas, other petroleum derivatives, sulphur and all other similar minerals of commercial value which are usually produced or mined by the drilling, boring or sinking of wells.[15]

XI. MONTANA

The Montana Strip and Underground Mine Reclamation Act pro-

11. ILL. ANN. STAT. tit. 93, § 94 (Smith-Hurd Supp. 1977).
12. MICH. STAT. ANN. § 13.1095(22)(b) (Supp. 1977).
13. *Id.* § 18.594(1)(h).
14. *Id.* § 26.1252(b) (1970).
15. MISS. CODE ANN. § 27-31-71 (1972).

vides as follows: " 'Mineral' means coal and uranium; . . . ."[16]
The Montana mined land reclamation act provides as follows:

> "Mineral" means any ore, rock, or substance, other than oil, gas, bentonite, clay, coal, sand, gravel, phosphate rock, or uranium, taken from below the surface or from the surface of the earth for the purpose of milling, concentration, refinement, smelting, manufacturing, or other subsequent use or processing or for stockpiling for future use, refinement, or smelting.[17]

XII. NEW YORK

The New York Public Lands Law provides as follows: " 'Minerals' means all minerals and rocks, more particularly any inorganic substance which can be extracted from the earth, excepting gas, oil and water."[18]
The New York Mined Land Reclamation Law provides as follows:

> "Mineral" means aggregate, cement rock, clay, coal, curbing, dimension stone, dolostone, emery, flagstone, garnet, gem stones, gravel, gypsum, iron, lead, limestone, marble, marl, metallic ore, paving blocks, peat, riprap, toadstone, salt, sand, sandstone, shale, silver, slate, stone, talc, titanium, trap rock, wollastonite, zinc or any other solid material or substance of commercial value found in natural dpeoits in or on the earth.[19]

XIII. NORTH CAROLINA

The North Carolina Mining Act of 1971 provides as follows: " 'Minerals' means soil, clay, coal, stone, gravel, sand phosphate, rock, metallic ore, and any other solid material or substance of commercial value found in natural deposits on or in the earth."[20]

XIV. NORTH DAKOTA

The North Dakota statute providing for the lease of minerals on public lands provides as follows: " 'Mineral' shall mean and include any valuable inert or lifeless substance formed or deposited in its present position through natural agencies, and which is found within the earth or beneath the soil, except that it shall not mean oil or gas, topsoil, or surface rocks."[21]
The North Dakota statute providing for reports of surface mining

16. MONT. REV. CODES § 50-1036(1) (Supp. 1977).
17. *Id.* § 50-1203(7) (Supp. 1977).
18. N.Y. PUB. LANDS LAW § 80(3) (McKinney 1951).
19. N.Y. ENVIR. CONSERV. LAW § 23-2705(7) (McKinney Supp. 1977).
20. N.C. GEN. STAT. § 74-49(6) (1975).
21. N.D. CENT. CODE § 38-11-01(2) (Supp. 1977).

operations provides as follows: " 'Mineral' includes cement rock, clay, gravel, limestone, manganese, molybdenum, peat, potash, pumicide, salt, sand, scoria, sodium sulfate, stone, zeolite, or other minerals, but does not include coal."[22]
The North Dakota Surface Mining Act provides as follows: " 'Minerals' shall mean coal."[23]

XV. OKLAHOMA

The Oklahoma Mining Lands Reclamation Act proclaims as follows:

> "Minerals" means asphalt, clay, coal, copper, granite, gravel, gypsum, lead, marble, salt, sand, shale, stone, tirpoli, volcanic ash and zinc, or any other substance commonly recognized as a mineral, and includes ores or rock containing any such substance, but excludes oil, gas and any other mineral found naturally in a liquid or gaseous state.[24]

XVI. OREGON

The Oregon statute establishing the State Department of Geology and Mineral Industries provides as follows: " 'Mineral' includes any and all mineral products, metallic and nonmetallic, solid, liquid or gaseous, and mineral waters of all kinds."[25]
The Oregon mined land reclamation act provides as follows: " 'Minerals' includes soil, coal, clay, stone, sand, gravel, metallic ore and any other solid material or substance excavated for commercial, industrial or construction use from natural deposits situated within or upon lands in this state."[26]

XVII. PENNSYLVANIA

The Pennsylvania Surface Mining Conservation and Reclamation Act provides as follows:

> "Minerals" shall mean any aggregate or mass of mineral matter, whether or not coherent, which is extracted by surface mining, and shall include but not be limited to limestone and dolomite, sand and gravel, rock and stone, earth, fill, slag, iron ore, zinc ore, vermiculite, clay, and anthracite and bituminous coal.[27]

XVIII. SOUTH CAROLINA

22. *Id.* § 38-16-01(4) (Supp. 1977).
23. *Id.* § 38-18-05(3) (Supp. 1977).
24. OKLA. STAT. ANN. tit. 45, § 723(d) (West Supp. 1977).
25. OR. REV. STAT. § 516.010(2) (1975).
26. *Id.* § 517.750(6) (1977).
27. PA. STAT. ANN. tit. 52, § 1396.3 (Purdon Supp. 1977).

The South Carolina Mining Act provides as follows: " 'Mineral' means soil, clay, coal, stone, gravel, sand, phosphate, rock, metallic ore, and any other solid material or substance found in natural deposits on or in the earth."[28]

XIX. SOUTH DAKOTA

The South Dakota Surface Mining Land Reclamation Act provides as follows:

> Terms as used in this chapter, unless the context otherwise plainly requires, shall mean:
>
> . . . .
>
> (3) "Mineral," those specified in subdivision (9) of this section, but excluding oil and gas;
>
> . . . .
>
> (9) "Surface mining," removal by means of surface entry of coal, clay, stone, sand, gravel and other minerals and mineral deposits, and the removal, disposition and deposit of overburden disturbed in connection therewith; . . . .[29]

XX. TENNESSEE

The Tennessee Surface Mining Law provides as follows: " 'Mineral' means coal, clay, stone, gravel, sand, phosphate rock, metallic ore, and any other solid material or substance of commercial value found in natural deposits on or in the earth, but does not include limestone, marble, chert or dimension stone."[30]

The Tennessee Mineral Test Hole Regulatory Act provides as follows: " 'Mineral' as used in this chapter means any substance with economic value whether organic or inorganic that can be extracted from the earth, but excluding oil and gas."[31]

XXI. TEXAS

The Texas Mineral Interest Pooling Act provides as follows: "The term 'mineral' as used herein is limited to oil and gas."[32]

XXII. VIRGINIA

The Virginia Mined Land Reclamation Act contains the following definition: "Mineral—Ore, rock, and any other solid homogeneous

28. S.C. CODE § 48-19-30(d) (1976).
29. S.D. COMPILED LAWS ANN. § 45-6A-2 (Supp. 1977).
30. TENN. CODE ANN. § 58-1541(b) (Supp. 1976).
31. *Id.* § 58-1903(c) (Supp. 1977).
32. TEX. NAT. RES. CODE ANN. § 102.002(1) (Vernon Supp. 1978).

crystalline chemical element or compound that results from the inorganic processes of nature other than coal."[33]

XXIII. WASHINGTON

The Washington surface mining act provides as follows: " 'Minerals' shall mean coal, clay, stone, sand, gravel, metallic ore, and any other similar solid material or substance to be excavated from natural deposits on or in the earth for commercial, industrial, or construction uses."[34]

XXIV. WEST VIRGINIA

The West Virginia Surface Mining Act provides as follows: " 'Minerals' as used in this article shall mean coal, clay, manganese, iron ore."[35]

XX. WISCONSIN

A Wisconsin statute relating to mine safety provides as follows: " 'Mineral' means a product recognized by standard authorities as mineral, whether metalliferous or non-metalliferous."[36]
The Wisconsin Metallic Mining Reclamation Act provides as follows: " 'Minerals' mean [sic] unbeneficiated metallic ore but does not include mineral aggregates such as stone, sand and gravel."[37]

XXVI. WYOMING

The Wyoming mine safety act provides as follows: "[T]he term 'mines' and 'minerals' shall not include coal mines or coal."[38]

33. VA. CODE § 45.1-180(1) (Supp. 1977).
34. WASH. REV. CODE § 78.44.030(4) (1976).
35. W. VA. CODE § 20-6-2(e) (1973).
36. WIS. STAT. ANN. § 101.15(2)(a)(2) (West Supp. 1977).
37. *Id.* § 144.81(4) (1974).
38. WYO. STAT. ANN. § 30-36 (1967).

APPENDIX II: PARTICULAR LANGUAGE OF GRANT OR RESERVATION

A. THE WORD "MINERALS" APPEARING ALONE

1. *Mineral*

The term "the mineral" includes: oil and gas.[1] The word mineral does not include natural gas.[2]

2. *Minerals*

The word "minerals" includes: oil and gas.[3] The word "minerals" does not include: topsoil, much, peat, humus, sand, and common clay,[4] or geothermal resources.[5]

3. *All Mineral*

The phrase "all the mineral" includes: coal[6] and diamonds.[7]

4. *All Minerals*

The phrase "all minerals" or "all the minerals" includes: oil and gas[8] and geothermal resources.[9] The phrase "all minerals of every kind and character" includes: sandstone.[10] The phrase "all minerals. . . of every kind and nature, both liquid and solid" does not include: gravel.[11]

B. THE WORD "MINERALS" FOLLOWED BY SPECIFICALLY NAMED SUBSTANCES

1. *All Minerals, Coal*

The phrase "all minerals, coal" does not include: oil and gas.[12]

2. *All Mineral or Coal.*

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1. Slone v. Kentucky-West Virginia Gas Co., 289 Ky. 623, 159 S.W.2d 993 (1942).
2. Silver v. Bush, 213 Pa. 195, 62 A. 832 (1906).
3. Stowers v. Huntington Dev. & Gas Co., 72 F.2d 969 (4th Cir. 1934).
4. FLA. STAT. ANN. § 689.20 (West 1969). For the use of the word "minerals" in a reservation or exception in a deed, grant, or conveyance in North Dakota, *see* text at *supra* note 125.
5. COLO. REV. STAT. ANN. § 38-35-121 (Supp. 1976).
6. Kentucky Coke Co. v. Keystone Gas Co., 296 F. 320 (6th Cir. 1924).
7. Kentucky Diamond Min. & Developing Co. v. Kentucky Transvaal Diamond Co., 141 Ky. 97, 132 S.W. 397 (1910).
8. Lovelace v. Southwest Petroleum Co., 267 F. 513 (6th Cir. 1920); Singleton v. Missouri Pac. Ry., 205 F. Supp. 113 (E.D. Ark. 1962); Elliott v. Nelson, 251 S.W. 501 (Tex. Comm. App. 1923); Sult v. A. Hochstetter Oil Co., 63 W. Va. 317, 61 S.E. 307 (1908).
9. Geothermal Kinetics, Inc. v. Union Oil Co. of California, ——Cal. App. 3d——, 141 Cal. Rptr. 879 (1977).
10. Kalberer v. Grassham, 282 Ky. 430, 138 S.W.2d 980 (1940).
11. Witherspoon v. Campbell, 219 Miss. 640, 69 So. 2d 384 (1954).
12. Horse Creek Land & Min. Co. v. Midkiff, 81 W. Va. 616, 95 S.E. 26 (1918).

The phrase "all the mineral or coal" does not include: natural gas.[13]

3. *All Minerals, Coal, and Oil Privileges*

The phrase "all minerals, coal and oil privileges" includes: oil and natural gas.[14]

4. *All Minerals, Coal, Iron, etc.*

The phrase "all minerals, coal, iron, etc." includes: oil and gas.[15]

5. *Minerals, Metals, Iron, Coal, or Fire Clay*

The phrase "minerals, metals, iron, coal or fire clay" includes: limestone, silica, silicated rock, and clay.[16]

6. *All Minerals, Paint Rock, etc.*

The phrase "all Minerals Paint Rock etc." includes: oil and gas.[17]

7. *All Mineral or Magnesia*

The phrase "all mineral or magnesia of any kind" includes: chromate of iron.[18]

8. *All Minerals and Oils*

The phrase "all minerals and oils" does not include: gravel.[19]

9. *All Mineral, and Oil Rights*

The phrase "all mineral, and oil rights" does not include: gravel.[20]

10. *Mineral and Timber and Oil*

The phrase "mineral and timber and oil" includes: gas.[21]

11. *All Minerals, Including Oil and Gas*

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13. McKinney's Heirs v. Central Kentucky Nat. Gas Co., 134 Ky. 239, 120 S.W. 314, 20 Ann. Cas. 934 (1909).
14. Maynard v. McHenry, 271 Ky. 642, 113 S.W.2d 13 (1938).
15. Norman v. Lewis, 100 W. Va. 432, 130 S.E. 913 (1926).
16. State *ex rel.* Atkinson v. Evans, 46 Wash. 219, 89 P. 565, 10 L.R.A. (N.S.) 1163 (1907).
17. Anderson Kerr Drilling Co. v. Bruhlmeyer, 134 Tex. 574, 136 S.W.2d 800, 127 A.L.R. 1217 (1940).
18. Gibson v. Tyson, 5 Watts 34, 13 Morr. Min. Rep. 72 (Pa. 1836).
19. Bambauer v. Menjoulet, 214 Cal. App. 2d 871, 29 Cal. Rptr. 874, 95 A.L.R.2d 839 (1963).
20. *Id.*
21. Bolen v. Casebolt, 252 Ky. 17, 66 S.W.2d 19 (1933).

The phrase "all minerals, including oil and gas" includes: sand and gravel.[22]

12. *All Minerals, Coal, Oil, and Gas*

The phrase "all minerals, coal, oil and gas" does not include: cinnabar or mercury.[23]

13. *All Minerals Including Iron, Coal, Bauxite, Silica and Other Metals and Minerals*

The phrase "all minerals including iron, coal, bauxite, silica and other metals and minerals" includes: gravel.[24]

14. *All Minerals, Including Coal, Iron, Natural Gas, and Oil*

The phrase "all minerals of any nature whatsoever, including coal, iron, natural gas and oil" is ambiguous when applied to andesite rock.[25]

15. *All Minerals Such as Coal, Iron, Silver, Gold, Copper Lead, Bismuth, Antimony, Zinc, or Any Other Mineral*

The phrase "all minerals such as coal, iron, silver, gold, copper, lead, bismuth, antimony, zinc or any other mineral of any marketable value" does not include: natural gas.[26]

C. THE WORD "MINERALS" FOLLOWED BY GENERAL TERMS

1. *All Mineral and Mineral Rights*

The phrase "all mineral and mineral rights" does not include: sand and gravel.[27]

2. *All Minerals and Mining Rights*

The phrase "all minerals and mining rights" includes: shale.[28]

3. *All Minerals, mineral substances, and Oils*

The phrase "all the minerals, mineral substances and oils" includes: natural gas.[29]

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22. United States v. 1,253.14 Acres of Land, 455 F.2d 1177 (10th Cir. 1972).
23. Mining Corp. of Arkansas v. International Paper Co., 324 F. Supp. 705 (W.D. Ark. 1971).
24. United States *ex rel.* Tennessee Valley Auth. v. Harris, 115 F.2d 343 (5th Cir. 1940).
25. Weyerhauser Co. v. Burlington Northern, Inc., 15 Wash. App. 314, 549 P.2. 54 (1976).
26. McKinney's Heirs v. Central Kentucky Nat. Gas Co., 134 Ky. 239, 120 S.W. 314, 20 Ann. Cas. 934 (1909).
27. Farrell v. Sayre, 129 Colo. 368, 270 P.2d 190 (1954).
28. Bibby v. Bunch, 176 Ala. 585, 58 So. 916 (1912).
29. Dingess v. Huntington Dev. & Gas Co., 271 F. 864 (4th Cir. 1921).

4. *All Minerals, Metals, and Mineral Substances*

The phrase "all the minerals, metals, and mineral substances of every kind and character" includes: oil and gas.[30]

5. *Mineral Deposits*

The phrase "mineral deposits" includes: oil and gas.[31]

D. PHRASES INCLUDING THE TERM "MINERAL RIGHTS" AND SIMILAR TERMS

1. *Mineral Rights*

The phrase "mineral rights" is much broader and is more inclusive than the term "oil and gas."[32] The phrase "mineral rights" includes novaculite.[33] The phrase "mineral rights" does not include: limestone,[34] geothermal resources,[35] sand, clay, or other nonmetallic minerals.[36]

2. *All Mineral Rights*

The phrase "all mineral rights" has been said to be equivalent to the phrase "other minerals."[37] The phrase "all mineral rights" includes oil and gas.[38] The phrase "all mineral rights" does not include: oil and gas[39] or water.[40]

3. *Mineral Rights and Minerals*

The phrase "mineral rights, and minerals . . . including iron, asphalt, sylica, or quartz" includes: gravel.[41]

4. *All Mineral Right and Coal Privileges*

The phrase "all of the mineral right and coal privileges" includes: oil and gas.[42]

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30. Lovelace v. Southwest Petroleum Co., 267 F. 513 (6th Cir. 1920).
31. Roth v. Huser, 147 Kan. 433, 76 P.2d 871 (1938).
32. Federal Oil, Gas & Coal Co. v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941).
33. Dierks Lumber & Coal Co. v. Meyer, 85 F. Supp. 157 (W.D. Ark. 1949).
34. Holland v. Dolese Co., 540 P.2d 549 (Okla 1975); Heinatz v. Allen, 147 Tex. 512, 217 S.W.2d 994 (1949).
35. COLO. REV. STAT. ANN. § 38-35-121 (Supp. 1976).
36. MICH. STAT. ANN. § 13-441 (1973).
37. River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976).
38. Barker v. Campbell-Ratcliff Land Co., 64 Okla. 249, 167 P. 468 (1917).
39. Paterson v. Wilcox, 11 Utah 2d 264, 358 P.2d 88 (1961).
40. Mack Oil Co. v. Laurence, 389 P.2d 955 (Okla. 1964).
41. United States *ex rel.* Tennessee Valley Auth. v. Harris, 115 F.2d 343 (5th Cir. 1940). For the phrase "all mineral and mineral rights," *see supra* note 27, and text accompanying. For the phrase "all mines, minerals, and mineral rights," *see* note 50 *infra*, and text accompanying.
42. Scott v. Laws, 185 Ky. 440, 151 S.W. 81, 13 A.L.R. 369 (1919). For the phrase "coal and mineral rights," *see* note 68 *infra*, and text accompanying. For the phrase "all coal mineral rights," *see* note 69 *infra*, and text accompanying.

5. *Mineral, Oil, and Gas Rights*

The phrase "mineral, oil and gas rights" does not include: sand and gravel.[43]

6. *Mineral Interest*

The phrase "mineral interest" does not include: oil and gas.[44]

E. PHRASES INCLUDING THE TERM "MINING RIGHTS"

1. *Any Mining Right*

The phrase "any mining right, or the right to dig for or obtain iron, lead, copper, coal, or other mineral" includes: oil and gas.[45]

F. PHRASES INCLUDING THE TERM "MINES AND MINERALS

1. *Mines and Minerals*

The phrase "mines and minerals" includes: coal and stone.[46] The phrase "mines and minerals" does not include limestone.[47]

2. *All Mines and Minerals*

The phrase "all mines and minerals" includes: paintstone.[48] The phrase "all mines and minerals"or "all the mines or minerals" does not include: limestone.[49]

3. *All Mines, Minerals, and Mineral Rights*

The phrase "all the mines, minerals, and mineral rights whatsoever" includes: oil and gas.[50]

4. *All Mines, Minerals, and Metals*

The phrase "all mines, minerals, and metals" includes: petroleum.[51]

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43. Holloway Gravel Co. v. McKowen, 200 La. 917, 9 So. 2d 228 (1942). For the phrase "all oil and mineral rights," *see* note 97 *infra*, and text accompanying. For the phrase "all gas, oil and mineral rights," *see* note 133 *infra*, and text accompanying.

44. Stegall v. Bugh, 228 Ark. 632, 310 S.W.2d 251 (1958). For the phrase "all coal and mineral interests and privileges," *see* note 77 *infra*, and text accompanying.

45. People *ex rel.* Carrell v. Bell, 237 Ill. 332, 86 N.E. 593, 19 L.R.A. (N.S.) 746, 15 Ann. Cas. 511 (1908). For the phrase "all minerals and mining rights," *see supra* note 28, and text accompanying. For the phrase "all the coal minerals and mining rights," *see* note 74 *infra*, and text accompanying.

46. Griffin v. Fellows, *81 (32 P. F. Smith) Pa. 114 (1873).

47. White v. Miller, 200 N.Y. 29, 92 N.E. 1065, 140 Am. St. Rep. 618 (1910).

48. Hartwell v. Camman, 10 N.J. Eq. 129, 64 Am. Dec. 448, 3 Morr. Min. Rep. 229 (1854).

49. Brady v. Smith, 181 N.Y. 178, 73 N.E. 963, 106 Am. St. Rep. 531, 2 Ann. Cas. 636 (1905); Campbell v. Tennessee Coal, Iron & Ry. Co., 150 Tenn. 423, 265 S.W.2d 674 (1924).

50. Warner v. Patton, 19 S.W.2d 1111 (Tex. Civ. App. 1929). For the phrase "all coal, gold, silver, lead, copper, and other precious and valuable ores, minerals, mines and mining rights," *see* note 93 *infra*, and text accompanying.

51. Murray v. Allard, 100 Tenn. 100, 43 S.W. 355, 66 Am. St. Rep. 740, 39 L.R.A. 249,

5. *All Mines and Wells of, and All Minerals*

The phrase "all mines and wells of, and all minerals of whatsoever description, be the same gaseous, liquid, or solid" does not include: sand and gravel.[52]

6. *All Mines and Mineral Substances*

The phrase "all mines and mineral substances" includes: salt.[53]

G. PHRASES INCLUDING THE TERM "METALS"

1. *All Metals and Minerals*

The phrase "all the metals and minerals of every kind and character whatsoever" does not include: limestone.[54]

H. PHRASES INCLUDING THE WORD "COAL"

1. *Coal and Mineral*

The phrase "coal and mineral" includes: oil and gas.[55]

2. *All Coal and Mineral*

The phrase "all coal and mineral," or "all the coal, and mineral" or "all the coal and mineral" includes: oil and gas,[56] and stone.[57]

3. *All Coal and Minerals*

The phrase "all the coal and minerals of every description" includes: oil and gas.[58] The phrase "all the coal, and minerals" does not include: natural gas.[59]

4. *All Coal and Other Mineral*

The phrase "all coal and other mineral" includes: oil and gas.[60]

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19 Morr. Min. Rep. 169 (1897).

52. Psencik v. Wessels, 205 S.W.2d 658 (Tex. Civ. App. 1947).

53. State v. Parker, 61 Tex. 265 (1884).

54. Beury v. Shelton, 151 Pa. 28, 144 S.E. 629 (1928). For the phrase "all mines, minerals, and metals," *see supra* note 51, and text accompanying. For the phrase "all the coal, ores, and other minerals and metals," *see* note 92 *infra*, and text accompanying.

55. Mothner v. Ozark Real Estate Co., 300 F.2d 617 (8th Cir. 1962).

56. Rowe v. Chesapeake Mineral Co., 156 F.2d 752 (6th Cir. 1946); Luse v. Parmer, 221 S.W. 1031 (Tex. Civ. App. 1920); Luse v. Boatman, 217 S.W. 1096 (Tex. Civ. App. 1919).

57. Jeffrey v. Spruce-Boone Land Co., 112 W. Va. 360, 164 S.E. 292, 86 A.L.R. 966 (1932).

58. Warren v. Clinchfield Coal Co., 166 Va. 524, 186 S.E. 20 (1936). For the phrase "all minerals, coal," *see supra* note 12, and text accompanying. For the phrase "all minerals, coal, oil and gas," *see supra* note 23, and text accompanying.

59. Highland v. Commonwealth, 400 Pa. 261, 161 A.2d 390 (1960). For the phrase "all mineral or coal," *see supra* note 13, and text accompanying.

60. Stewart Oil Co. v. Sohio Petroleum Co., 202 F. Supp. 952 (E.D. Ill. 1962).

5. *All Coal and Other Minerals*

The phrase "all coal and other minerals" or "all the coal and other minerals" includes: oil and gas.[61] The phrase "all coal and other minerals" or "all the coal and other minerals" does not include: oil and gas,[62] common sand[63] or sand and gravel.[64]

6. *All Coal, Coal Oil, and Other Minerals*

The phrase "all the coal, coal oil, and other minerals of every kind and character" does not include: natural gas.[65]

7. *All Coal, Coal Oil, and All Other Minerals*

The phrase "all the coal, coal oil and all other minerals of every kind and character" does not include: natural gas.[66]

8. *Coal, Mineral, Stone, or Other Valuable Deposits*

The phrase "coal, mineral, stone or other valuable deposits" includes: oil and gas.[67]

9. *Coal and Mineral Rights*

The phrase "coal and mineral rights" includes: oil and gas.[68]

10. *All Coal Mineral Rights*

The phrase "all coal mineral rights" includes: oil and gas.[69]

11. *Coal and Mineral Privilege*

The phrase "coal and mineral privilege" includes: coal only.[70]

12. *All Coal and Mineral Deposits*

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61. Shell Oil Co. v. Dye, 135 F.2d 365 (7th Cir. 1943); Shell Oil Co. v. Moore, 382 Ill. 556, 48 N.E.2d 400 (1943); Shreier v. Chicago & N. Ry., 96 Ill. App. 2d 425, 239 N.E.2d 281 (1968); Sellars v. Ohio Valley Trust Co., 248 S.W.2d 897 (Ky. 1952). *See* Adkins v. Adams, 152 F.2d 489 (7th Cir. 1945) ("all the coal and other minerals or mineral substances").

62. Gordon v. Carter Oil Co., 19 Ohio App. 319 (1924).

63. Hendler v. Lehigh Valley Ry., 209 Pa. 256, 58 A. 486, 103 Am. St. Rep. 1005 (1904).

64. State Land Bd. v. State Dep't of Fish and Game, 17 Utah 2d 237, 408 P.2d 707 (1965).

65. Highland v. Commonwealth, 400 Pa. 261, 161 A.2d 390 (1960). For the phrase, "any mining right, or the right to dig for or obtain iron, lead, copper, coal, or other mineral," *see supra* note 45, and text accompanying.

66. Highland v. Commonwealth, 400 Pa. 261, 161 A.2d 390 (1960).

67. Rio Bravo Oil Co. v. McEntire, 128 Tex. 124, 95 S.W.2d 381, *aff'd in part, rev'd in part on rehearing*, 128 Tex. 124, 96 S.W.2d 1110 (Tex. Comm. App. 1936).

68. Gibson v. Sellars, 252 S.W.2d 911 (Ky. 1952).

69. Berry v. Hiawatha Oil & Gas Co., 198 S.W.2d 497 (Ky. 1946).

70. Clements v. Morgan, 307 Ky. 496, 211 S.W.2d 164 (1948). For the phrase "all of the mineral right and coal privileges," *see supra* note 42, and text accompanying. For the phrase "all minerals, coal and oil privileges," *see supra* note 14, and text accompanying.

The phrase "all coal and mineral deposits" does not include: oil and gas,[71] or bauxite.[72]

13. *Coal and Mining Rights*

The phrase "coal and mining rights" includes: oil and gas.[73]

14. *All Coal Minerals and Mining Rights*

The phrase "all the coal minerals and mining rights" includes: oil and gas.[74]

15. *All Coal Minerals and Mining Privileges*

The phrase "all the coal minerals and mining privileges" includes: fluorspar.[75]

16. *All Coal Minerals and Mineral Products, Fire and Potters Clay, All Iron and Iron Ore, All Stone*

The phrase "all the coal minerals and mineral products, fire and potters clay, all iron and iron ore, all stone" does not include: oil and gas.[76]

17. *All Coal and Mineral Interests and Privileges*

The phrase "all the coal and mineral interests and privileges" does not include: natural gas.[77]

18. *All Veins of Coal and Mineral*

The phrase "all veins and coal & mineral" includes: oil and gas.[78]

19. *All Coal, Salt-Water, and Minerals*

the phrase "all the coal salt-water and minerals" includes: oil and gas.[79]

20. *All Coal, Salt-Water, and Minerals of Every Description*

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71. Brizzolara v. Powell, 214 Ark. 870, 218 S.W.2d 728 (1949); Missouri Pac. Ry. v. Furqueron, 210 Ark. 460, 196 S.W.2d 588 (1946); Missouri Pac. Ry. v. Strohacker, 202 Ark. 645, 152 S.W.2d 563 (1941).
72. Carson v. Missouri Pac. Ry., 212 Ark. 963, 209 S.W.2d 97, 1 A.L.R.2d 784 (1948).
73. Delta Drilling Co. v. Arnett, 186 F.2d 481 (6th Cir. 1950).
74. Hurley v. West Kentucky Coal Co., 294 Ky. 96, 171 S.W.2d 15 (1943).
75. Franklin Fluorspar Co. v. Hosick, 239 Ky. 454, 39 S.W.2d 665 (1931).
76. Rice v. Blanton, 232 Ky. 195, 22 S.W.2d 580 (1929).
77. McKinney's Heirs v. Central Kentucky Nat. Gas Co., 134 Ky. 239, 120 S.W. 314, 20 Ann. Cas. 934 (1909).
78. Waugh v. Thompson Land & Coal Co., 103 W. Va. 567, 137 S.E. 95 (1927).
79. Federal Gas, Oil & Coal Co. v. Moore, 290 Ky. 284, 161 S.W.2d 46 (1941).

The phrase "all coal, salt-water, and minerals of every description" includes: oil and gas.[80]

21. *All Coal, Iron, and Minerals*

The phrase "all coal, iron, and minerals" includes: oil and gas.[81]

22. *All Coal and Iron Minerals*

The phrase "all the coal and iron minerals" does not include: oil and gas.[82]

23. *All Coal, Iron Ore, and Other Minerals*

The phrase "all the coal, iron ore, and other minerals" does not include: sand and gravel.[83]

24. *All Coal, Iron Ore, and All Other Minerals, and Fire Clay*

The phrase "all the bituminous and other coals, iron ore and all other minerals, and fire clay" does not include: sand, rock, shale, water, or earth.[84]

25. *All Coal, Fire Clay, and Minerals*

The phrase "all the coal and fire clay and minerals" does not include: oil and gas.[85]

26. *Coal, Fire Clay, and Other Minerals*

The phrase "coal, fire clay and other minerals" does not include: oil and gas.[86]

27. *All Coal, Coal Oil, Fire Clay and Other Minerals*

The phrase "all the coal, coal oil, fire clay and other minerals of whatever nature or character" includes: natural gas.[87] The phrase "all the coal, coal oil, fire clay and other minerals of every kind and character" does not include: natural gas.[88]

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80. Kentucky-West Virginia Gas Co. v. Preece, 260 Ky. 601, 86 S.W.2d 163 (1935).
81. Burdette v. Bruen, 118 W. Va. 624, 191 S.E. 360 (1937). For the phrase "all minerals, coal, iron, etc.," *see supra* note 15, and text accompanying.
82. Bruen v. Thaxton, 126 W. Va. 330, 28 S.E.2d 59 (1943).
83. Harper v. Talladega County, 279 Ala. 365, 185 So. 2d 388 (1966).
84. Steinman Dev. Co. v. W. M. Ritter Lumber Co., 290 F. 832 (W.D. Va. 1922), *aff'd*, 290 F. 841 (4th Cir. 1923).
85. Monon Coal Co. v. Riggs, 115 Ind. App. 236, 56 N.E.2d 672 (1944).
86. Western Coal & Min. Co. v. Middleton, 362 F.2d 48 (8th Cir. 1966).
87. New York State Nat. Gas Corp. v. Swan-Finch Gas Dev. Corp., 278 F.2d 577 (3d Cir. 1960).
88. Highland v. Commonwealth, 400 Pa. 261, 161 A.2d 390 (1960) (reciting an intention

28. *All Coal, Fire Clay, Iron Ore, and Other Minerals*

The phrase "all the coal, fire clay, iron-ore and other minerals" does not include: natural gas.[89]

29. *All Coal, Fire Clay, Limestone, Iron Ore and Other Minerals*

The phrase "all the coal, fire clay, limestone, iron ore and other minerals" or "all the coal, iron ore, limestone, fire clay, and other minerals" does not include: natural gas.[90]

30. *All Coal of Every Variety, and All the Iron Ore, Fire Clay, and Other Valuable Minerals*

The phrase "all the coal of every variety, and all the iron ore, fire clay, and other valuable minerals" does not include: oil and gas.[91]

31. *All Coal, Ores, and Other Minerals and Metals*

The phrase "all the coal, ores, and other minerals and metals" includes: slate.[92]

32. *All Coal, Gold, Silver, Lead, Copper, and Other Precious and Valuable Ores, Minerals, Mines, and Mining Rights*

The phrase "all the coal, gold, silver, lead, copper and other precious and valuable ores, minerals, mines and mining rights" includes: oil and gas.[93]

I. PHRASES INCLUDING THE TERM "IRON" OR "IRON ORE"

1. *Iron, Coal, and Other Minerals*

The phrase "iron, coal, and other minerals" does not include: oil and gas.[94]

J. PHRASES INCLUDING THE TERM "OIL"

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to convey "all the land, coal, coal oil, fire clay, natural gas, and other minerals").

89. *Id.* For the phrase "minerals, metals, iron, coal or fire clay," *see supra* note 16, and text accompanying.

90. *Id.*

91. Detlor v. Holland, 57 Ohio 492, 49 N.E. 690, 40 L.R.A. 266 (1898).

92. McCombs v. Stephenson, 154 Ala. 109, 44 S.W. 867 (1907).

93. Western Dev. Co. v. Nell, 4 Utah 2d 112, 288 P.2d 452 (1955). For other phrases including coal, *see supra* notes 24-26, and text accompanying; *see* notes 94, 98, 127 & 130 *infra*, and text accompanying.

94. Huie Hodge Lumber Co. v. Railroad Lands Co., 151 La. 197, 91 So. 676 (1922). For other phrases including "iron ore," *see supra* notes 15, 16, 24-26, 76, 81-84, 89-91, and text accompanying.

1. *Oil and Minerals*

The phrase "oil and minerals of every description" does not include: sand, gravel, or limestone.[95]

2. *All Oil or Other Minerals*

The phrase "all oil or other minerals" does not include: gas.[96]

3. *All Oil and Mineral Rights*

The phrase "all oil and mineral rights" includes: gas.[97]

4. *Oil, Coal, Fire Clay and Minerals*

The phrase "oil, coal, fire clay and minerals of every kind and character" does not include: gas.[98]

5. *All Oil Privileges*

The phrase "all of the oil privileges" does not include: natural gas.[99]

K. PHRASES INCLUDING THE TERMS "OIL" AND "GAS"[100]

1. *Oil, Natural Gas, and/or Mineral*

The phrase "oil, natural gas, and/or mineral" includes: coal.[101]

2. *All Oil, Natural Gas, or Minerals*

The phrase "all oil, natural gas or minerals" includes: coal.[102]

3. *All Oil, Gas, and Minerals*

The phrase "all the oil, gas and minerals" is equivalent to the phrase "all oil, gas and other minerals."[103] The phrase "all oil, gas and minerals" includes: uranium, thorium, and associated minerals.[104]

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95. Kinder v. La Salle County Carbon Coal Co., 310 Ill. 126, 141 N.E. 537 (1923). For the phrase "all minerals and oils," *see supra* note 19, and text accompanying. For the phrase "all minerals and timber and oil," *see supra* note 21, and text accompanying. For the phrase "all the minerals, mineral substances, and oils" *see supra* note 29, and text accompanying.

96. Wolf v. Blackwell Oil & Gas Co., 77 Okla. 81, 186 P. 484 (1920).

97. Bulger v. McCourt, 179 Neb. 316, 138 N.W.2d 18 (1965).

98. Bundy v. Myers, 372 Pa. 583, 94 A.2d 724 (1953).

99. Murphy v. Van Voorhis, 94 W. Va. 475, 119 S.E. 297 (1923). For the phrase "all minerals, coal, and oil privileges," *see supra* note 14, and text accompanying.

100. *See* Annot., 59 A.L.R.3d 1146 (1974); Lange, *Does the Phrase "Oil, Gas and Other Minerals" in a Mineral Lease Include Uranium?*, 2 NAT. RES. LAW. 360 (1969).

101. Adams County v. Smith, 74 N.D. 621, 23 N.W.2d 873 (1946).

102. Abbey v. State, 202 N.W.2d 844 (N.D. 1972).

103. Sloan v. Peabody Coal Co., 547 F.2d 115 (10th Cir. 1977).

104. New Mexico & Arizona Land Co. v. Elkins, 137 F. Supp. 767 (D.N.M. 1956). For the phrase "all minerals, including oil and gas," *see supra* note 22, and text accompanying.

The phrase "all the oil, gas and minerals" does not include: coal.[105]

4. *All Oil, Gas and Mineral Rights*

The phrase "all oil, gas and mineral rights" is equivalent to the phrase "all oil, gas and other minerals."[106] The phrase "all oil, gas and mineral rights" does not include: copper, gold, silver, lead, or other types of metallic ores or metallic metals,[107] or granite.[108]

5. *Oil, Gas or Other Minerals*

The phrase "oil and gas or other minerals" includes: bentonite.[109]

6. *Oil, Gas, and Other Minerals*

The phrase "oil, gas and other minerals" includes: metallic minerals such as rutile, ilmenite, monazite, zircon, and titanium.[110] The phrase "oil, gas and other minerals" does not include: limestone, caliche, or shale[111] or sand and gravel.[112]

7. *All Oil, Gas, and Other Minerals*

The phrase "any and all oil, gas and other minerals" includes: lignite.[113] The phrase "all oil, gas and other minerals" or "all the oil, gas and other minerals," or "all of the oil, gas and other minerals: does not include: coal,[114] lignite,[115] sand,[116] gravel,[117] rock,[118] gypsum,[119] clay,[120] or water.[121]

8. *Oil, Gas, and All Other Minerals*

The phrase "all other minerals" is equivalent to the phrases "other minerals" and "all the mineral rights."[122] The phrase "oil,

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105. Sloan v. Peabody Coal Co., 547 F.2d 115 (10th Cir. 1977).
106. Allen v. Farmers Union Co-operative Royalty Co., 538 P.2d 204 (Okla. 1975).
107. *Id.* For the phrase "mineral, oil and gas rights," *see supra* note 43, and text accompanying.
108. Thomas v. Markham & Brown, Inc., 353 F. Supp. 498 (E.D. Ark. 1973).
109. Cole v. McDonald, 236 Miss. 168, 109 So. 2d 628 (1959).
110. Collins v. Coastal Petroleum Co., 118 So. 2d 796 (Fla. App. 1960).
111. Atwood v. Rodman, 355 S.W.2d 206 (Tex. Civ. App. 1962).
112. West Virginia Dep't of Highways v. Farmer, 228 S.E.2d 717 (W. Va. 1976).
113. Christman v. Emineth, 212 N.W.2d 543 (N.D. 1973).
114. Besing v. Ohio Valley Coal Co., 155 Ind. App. 527, 293 N.E.2d 510, 59 A.L.R.3d 1137 (1973); Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).
115. Reed v. Wylie, 554 S.W.2d 169 (Tex. 1977).
116. Winsett v. Watson, 206 S.W.2d 656 (Tex. Civ. App. 1947).
117. Bumpus v. United States, 325 F.2d 264 (10th Cir. 1963); Praeletorian Diamond Oil Ass'n v. Garvey, 15 S.W.2d 698 (Tex. Civ. App. 1929).
118. Winsett v. Watson, 206 S.W.2d 656 (Tex. Civ. App. 1947).
119. Cronkhite v. Falkenstein, 352 P.2d 396 (Okla. 1960).
120. Hans v. Great Bend Brick & Tile Co., 172 Kan. 478, 241 P.2d 475 (1952).
121. Sun Oil Co. v. Whitaker, 412 S.W.2d 680 (Tex. Civ. App. 1967), *aff'd*, 424 S.W.2d 616 (Tex. 1968). *See* Vogel v. Cobb, 193 Okla. 64, 141 P.2d 276 (1943); Fleming Foundation v. Texaco, Inc., 337 S.W.2d 846 (Tex. Civ. App. 1960).
122. River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976).

gas and all other minerals" does not include: building sand[123] or lignite.[124]

9. *Oil, Gas, Casinghead Gasoline, and all Other Minerals*

The phrase "oil, gas, casinghead gas, casinghead gasoline, and all other minerals" includes: all minerals, not only those which can be produced by means of an oil and gas well.[125]

10. *All Oil, Gas, Casinghead Gas, and Other Minerals*

The phrase "all oil, gas, casinghead gas and other minerals" does not include: limestone.[126]

11. *All Oil, Gas, Coal, and Other Minerals*

The phrase "all of the oil, gas, coal and other minerals" includes: uranium.[127]

12. *Oil and Gas, Fire Clay, and All Other Minerals*

The phrase "oil and gas, . . . fire clay, . . . and all other minerals" does not include: limestone.[128]

13. *All Oil, Petroleum, Gas, Coal, Asphalt, and All Other Minerals*

The phrase "all of the oil, petroleum, gas, coal, asphalt and all other minerals of every kind and character" does not include: gravel[129] or water.[130]

14. *All Oil, Gas, and Kindred Minerals*

The phrase "all of the oil, gas and kindred minerals" does not include: uranium.[131]

L. MISCELLANEOUS PHRASES

1. *Volcanic Ash, and All Other Minerals or Mineral Derivatives*

123. Shell Petroleum Corp. v. Liberty Gravel & Sand Co., 128 S.W.2d 471 (Tex. Civ. App. 1939).
124. *See* River Rouge Minerals, Inc. v. Energy Resources of Minnesota, 331 So. 2d 878 (La. App. 1976).
125. Evangelical Luth. Church v. Stanolind Oil & Gas Co., 251 F.2d 412 (8th Cir. 1958).
126. Eldridge v. Edmondson, 252 S.W.2d 605 (Tex. Civ. App. 1952).
127. Cain v. Newman, 316 S.W.2d 915 (Tex. Civ. App. 1958). For the phrase "all minerals, coal, oil, and gas," *see supra* note 23, and text accompanying. For the phrase "all minerals, including coal, iron, natural gas and oil," *see supra* note 25, and text accompanying.
128. Little v. Carter, 408 S.W.2d 207 (Ky. 1966).
129. State *ex rel.* Comm'rs of Land Office v. Hendrix, 196 Okla. 596, 167 P.2d 43 (1946).
130. *See* Vogel v. Cobb, 193 Okla. 64, 141 P.2d 276 (1943).
131. Dawson v. Meike, 508 P.2d 15 (Wyo. 1973).

The phrases "volcanic ash, and all other minerals or mineral derivatives" does not include: oil and gas.[132]

2. *All Gas, Oil, and Mineral Rights*

The phrase "all gas, oil and mineral rights" does not include: gypsum.[133]

3. *Natural Gas, Petroleum, and Other Mineral Substances*

The phrase "natural gas, petroleum and other mineral substances" does not include: coal, clay, gypsum, limestone, gravel, rock, dirt, or argillaceous materials.[134]

4. *Timber, Earth, Stone, and Mineral*

The phrase "timber, earth, stone and mineral" does not include: oil and gas.[135]

132. Davis v. Plunkett, 187 Kan. 121, 353 P.2d 514 (1974).
133. Keller v. Ely, 192 Kan. 698, 391 P.2d 132 (1964).
134. Wulf v. Shultz, 211 Kan. 724, 508 P.2d 896 (1973).
135. Right of Way Oil Co. v. Gladys City Oil Co., 106 Tex. 94, 157 S.W. 737 (1913).